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Insigniam QUARTERLY®

TRANSFORMING THE PRACTICE OF MANAGEMENT AND LEADERSHIP
Volume 9 Issue 1 | Winter 2022
insigniam.com/quarterly-magazine

INSIGNIAM QUARTERLY

Take Action: The Future Is Now

THE **10 CRITICAL CHALLENGES** EVERY COMPANY WILL FACE IN THE NEXT DECADE AND WHY **THE TIME FOR BOLD LEADERSHIP IS NOW**

THE **ACTION** ISSUE

Volume 9 Issue 1 Winter 2022 insigniam.com/quarterly-magazine

TIME FOR ACTION

Insigniam has been guiding clients through organizational transformations for more than 30 years. In that time, we and our clients have encountered all sorts of changes, and all sorts of creative, clever responses to them—some of which, as you might imagine, were more effective than others.

Historians often cite the late 19th century as a time of massive upheaval, with the telegraph, railroads, steel processing, chemicals and mass manufacturing all changing the way we lived and worked. That being said, I think we can still agree that today's pace of change is no slouch. That's perhaps most obvious in fields such as **information technology**. But in a world that is more connected than ever, we no longer have the luxury of thinking that we can ignore disruptions that do not at first seem to affect our businesses. Big **demographic shifts** in Asia and Africa will absolutely affect businesses headquartered in the U.S. and Europe. COVID-19-related **educational disruptions** will have profound repercussions on our ability to hire and retain the best employees. **Climate change**, of course, will affect all of us and every aspect of our businesses. But in the day-to-day duties of managing a business, it's easy for even the most perceptive leaders to miss the forest for the trees—especially if that forest seems to be over the horizon.

That's why, in this issue of *Insigniam Quarterly*, we focus on the big picture—the global trends and shifts that will affect all businesses in the next decade and the need to address them now. We've also **surveyed leaders of enterprises across industries** and found that a large proportion say they're not at all prepared to meet these challenges. Significant numbers of leaders say that in order to thrive in the face of these challenges, they will need to undertake organizational transformations.

As partners and consultants devoted to effective and appropriate transformation, we applaud this candor. We also recognize that the global economy is unlikely to be so understanding. The time for action is now. IQ34

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IQ Insigniam Quarterly **is a thought leadership publication committed to transforming the world of business by offering content relevant to the C-suite and their executive teams at large, complex global enterprises.**

IQ Insigniam Quarterly is a production of Insigniam Holding LLC and is published by Pace Communications, Inc., 1301 Carolina St., Greensboro, NC 27401, 336-378-6065, *www.paceco.com*. (Pace Communications® Pace®)

WINTER 2022

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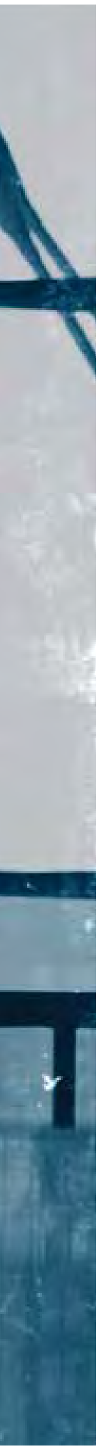
ON THE COVER Illustration by Sean Mosher-Smith

ILLUSTRATION BY SEAN MOSHER-SMITH/SHUTTERSTOCK

"We are seeing the **frequency of disruptions growing and their level of impact increasing**," states **Andrea Bonime-Blanc**, CEO of New York City-based GEC Risk Advisory and a faculty member in the Global Security, Conflict and Cybercrime program in New York University's Center for Global Affairs.



FEATURES

Insigniam QUARTERLY®

The unprecedented complexity of today's **business transformations provides an opportunity** for a new way of thinking—and leading

INTRODUCTION | By Marie-Caroline Chauvet | Illustration by Sean Mosher-Smith

The Clash Between Organizational Transformation and Linear Thinking


NO
WORK
HEALTHY
SCANNING
HEALTHY

Insigniam recently surveyed senior leaders about 10 of the largest challenges facing business, and the world, today. As one would expect, the survey revealed differing priorities and responses to challenges as diverse as global food security and the increasing pace of technological change. But the responses also highlighted a widespread understanding that business as usual is inadequate to effectively respond to challenges of this magnitude. Instead, leaders realize that in many cases, a wholesale transformation is required to be an effective actor in this new and progressively more complex world.

How, then, can leaders think of transformation on such a scale, and of such impact, that it would be adequate to steer a company through a mega-challenge such as, say, climate change? It should seem obvious that such a transformation can't be planned in a linear way. Large organizations are complex adaptive systems that constantly evolve through the actions of independent agents—from employees and customers to shareholders, regulators and other stakeholders. That's the case even before we contemplate the massive changes that are being wrought by the forces detailed in this issue.

Yet many organizations continue to rely on linear thinking to address changes that are complex and unpredictable. These organizations act as if a sufficiently detailed, perfectly enforced command-and-control paradigm will enable them to properly respond to changes that are surprising and outpacing them on every front.

The task of transformation in a complex world can be likened to that of herding cats. An extremely linear thinker, faced with 20 cats on the left side of a room and wanting to move them to the right, might pick up one cat, move it to the right, and repeat. Of course, that cat is unlikely to stay on the right side of the room, and our linear thinker is unlikely to outlast 20 cats.

But it is possible to set conditions that will cause most, if not all, of the cats to end up on the right. Placing cat food on the right side of the room might help. You could also make sure the left side of the room smells like something cats don't like, such as citrus or rosemary. Better yet, figure out some clever way to tilt the floor.

Similarly, leaders can set the conditions that will cause their organizations to transform, and to support the emergence of a future state that is more appropriate to today's levels of complexity and change. Through our work with large companies in all industries and geographies, we've found five conditions that set the stage for adaptive transformations.

33%

Percentage of companies that say they are **"very unprepared" to deal with the challenges** presented by emerging economies.

A Transformation Must Be Anchored in a Clear Purpose That Is Worthy of People's Personal Commitment

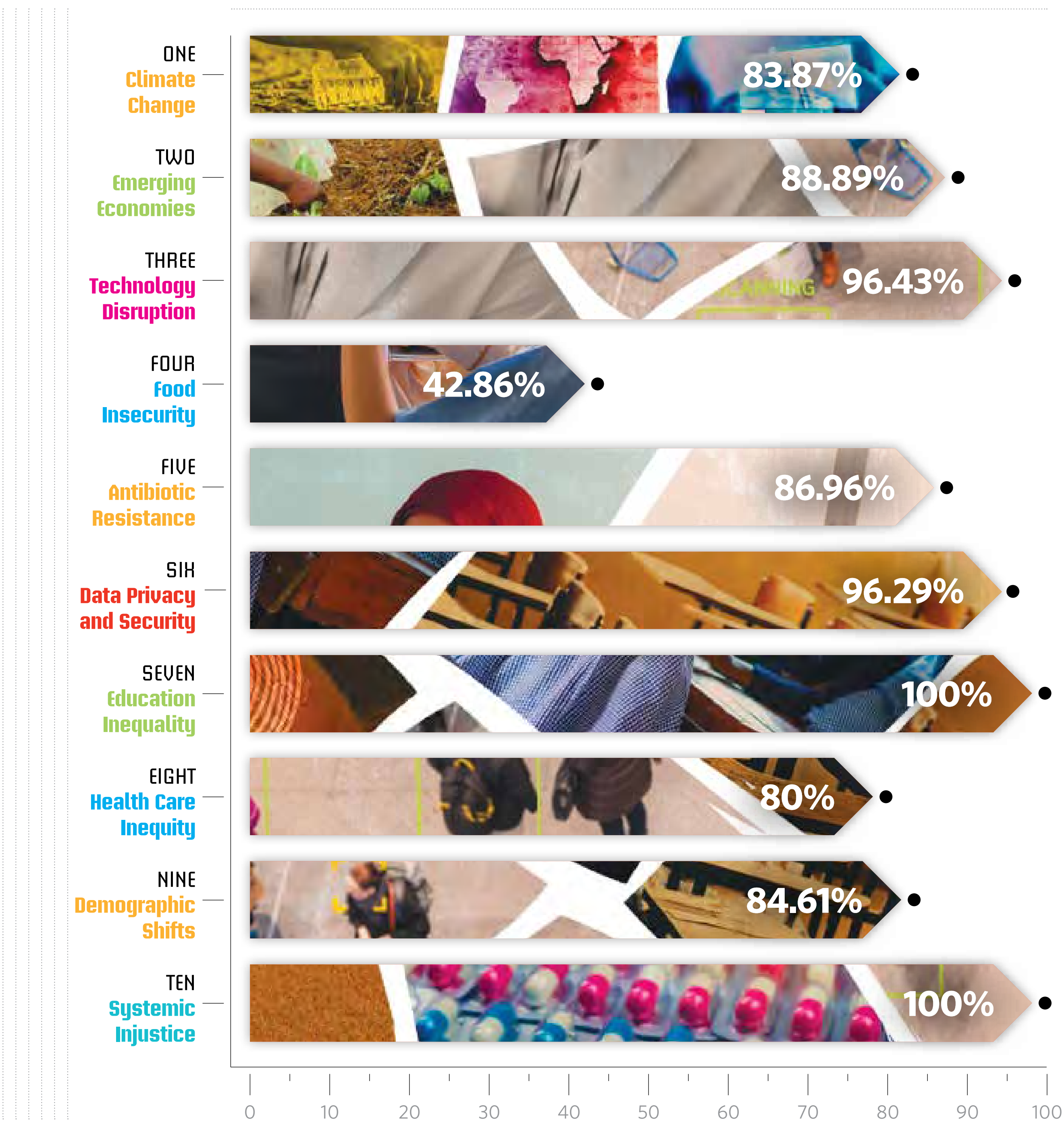
Defining a clear purpose for a transformation calls upon one of the most basic tasks of leadership: to show people the way forward, and to show why the new world they are being asked to build is superior to the old. The transformation has to express the possibility of a new order, and must be anchored in what would be considered breakthrough results. Without this clear purpose, the effort required to successfully transform the organization will not seem worthy of commitment on the part of those required to put it into action.

This breakthrough outcome could relate to an organization's products or its processes. As a breakthrough outcome, an organization might seek to successfully implement a new technology, whether that's new to the organization or something that has >>>

Survey Results | Question 1

How likely is it that you will have to transform your organization to address these 10 Challenges?

Percentage of senior leaders who say it is "likely" or "very likely" **their organization will have to transform** to meet this challenge.



If you hire smart, driven, innovative people who are given the freedom to operate, then as a leader you are confident you'll come up with solutions for this disruption and transformation.

yet to be invented. A breakthrough outcome could also be a dramatic reduction in carbon footprint, or a dramatic improvement in the health and wellness of employees.

Culture and Business Must Be Integrated

Because transformations can seem so overwhelming, it's tempting, and sometimes helpful, to put tasks and goals into buckets. But business and culture often get put into separate buckets—the hard and the soft—which is a mistake. Culture is simply how people think and act. It is part of every aspect of the organization. Your finance team, arguably working on the "hard" side of the business, has its own culture, while also contributing to and being affected by the culture of the larger organization. It's impossible to work on the business without also affecting the culture.

When taking on a transformation, it's important to ask if your organization has a culture that will support the outcomes of the transformation. This needs to be more than a gut check: Ask what characteristics a culture would need to have in order to support the transformation you seek. Once those specific qualities are identified, it's time to identify them in your culture, and create or strengthen them if necessary.

Engage With People Who See the World Differently

It's easy for us to get caught in our own little bubbles. But we're unlikely to solve any of the large challenges ahead of us without new perspectives—if our existing knowledge and approaches were enough, we probably would have solved many of these problems already. That means we need to actively seek out perspectives that differ from our own, and we need to build an organization that encourages its staff to do the same.

There are both formal and informal ways to do this. Essentially, this is about asking new questions. It's not too much to bring an anthropologist into your organization to help you see things in a new way. When we work on innovation, we bring together panels of thought leaders that bring together people with different perspectives. That gives clients and their partners an opportunity to hear from, and engage with, people who have different ways of thinking, different areas of domain expertise and different backgrounds.

But these sorts of initiatives will have limited impact if your organization doesn't value this type of engagement. In that case, it will take an intentional effort to become more open and more engaged with other points of view. Look at your organization and how work is typically structured. When could new connections take place? Is time for that activity valued and protected? How much does your organization encourage people to develop themselves, outside of the expected professional development pathways? On a more personal level, how much do you read, and does your chosen reading material show a curiosity about the world outside your industry?

Reinvent Stakeholder Relationships and Partnerships as a Coalition

The time during which businesses could succeed simply by managing transactions with employees, vendors and customers is long past—if indeed it ever existed at all. To transform, businesses need to reinvent the ways they work with their stakeholders. We express this as reinventing stakeholder relationships to form a coalition, which we define as a group of people with different concerns coming together for a common commitment.

The potential future for the aviation industry provides one example. It's unlikely >>>

that large aviation companies will dramatically reduce their carbon footprint if they choose to work in the industry's traditional ways. The existing supply chain is locked into place, and it benefits from a complex web of relationships that resist change. For aviation to become significantly more green, a multitude of players will need to invent new fuels, materials and possibly business models. These will likely come from startups and others who aren't part of the existing aviation supply chains. That means the larger companies will need to reconsider their supplier relationships and the rules of engagement that govern their work with smaller vendors. A complex coalition of stakeholders will guide, monitor and support progress toward transformational change.

Meanwhile, other players in the aviation industry will be undergoing their own transformations, underlining the futility of trying to plan a transformation using only linear thinking.

Do No Harm, Correct If You Do, and Better Yet, Strive to Do Good While Creating Prosperity for Others

Over the past several years, stakeholder capitalism has created an environment in which a company can't be only about profits. Instead, for-profit entities are expected to be a force for some good in the world, even above the obvious benefits of providing jobs, goods and services that people want and need. In a highly interconnected world, business transformations will need to take into account the impact on all stakeholders, both internal and external. No organization can afford to operate with blinders on when it comes to its total impact on its ecosystem. It's imperative to ask yourself, at the very least, if your actions are a match for your purposes and your stakeholder commitments.

64%

Percentage of companies that say **they will "very likely" need to transform to meet the challenges** posed by technology disruption.

This alignment—or lack thereof—is one way to assess an organization's authenticity. And authenticity matters more than leaders might at first think. It is an attribute stereotypically valued by millennials, but few customers, shareholders or employees would choose to interact with an organization that says one thing while it does another. The pandemic has caused both senior leadership and individual contributors to reassess the level of interconnectedness in the world, according to research from Insigniam. Believing that any untoward behavior can be compartmentalized away is a mindset of the past.

No Two Organizations—or Transformations—Are Alike

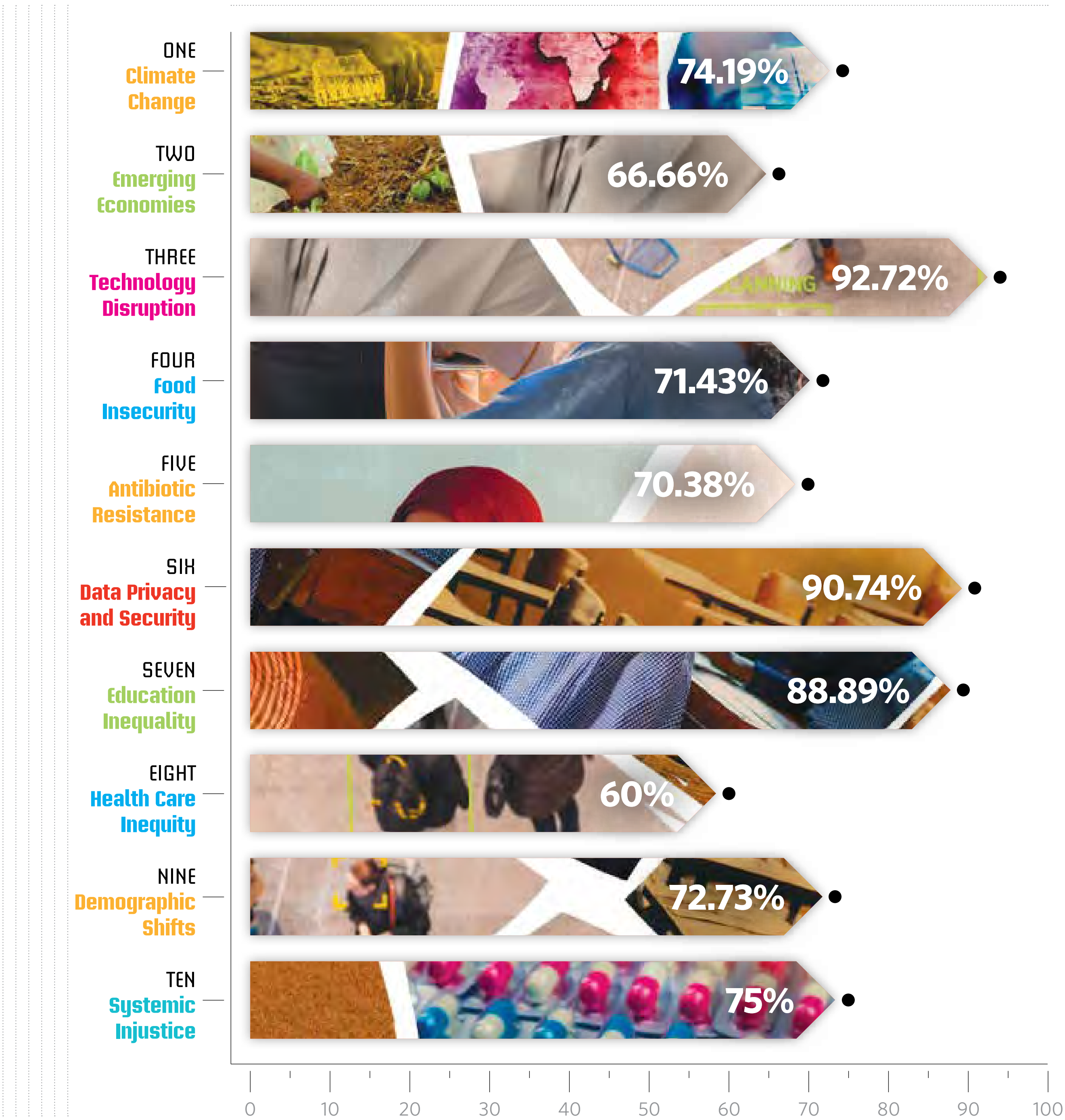
In our work with clients across industries and geographies, we've seen that the five conditions above are necessary enablers of transformation. But this list is not exhaustive. There will be a small number of additional conditions that are unique to your organization and its transformation.

Organizations have developed their own tools for transformation for years, and it's imperative that they continue to do so. Six Sigma and Lean were originally invented to meet the needs of a single company (Motorola and Toyota, respectively, with the latter drawing inspiration from Henry Ford). What is the tool or condition that is perfectly suited to respond to the unique needs of your company? The right conditions will allow the emergence of the necessary transformations, while inappropriate ones will cause unnecessary confusion and delay. It's up to leaders to understand the difference, and to build or adopt the frameworks that will best enable their own organization's transformation. IQ34

Survey Results | Question 2

How prepared are you to address these 10 Challenges?

Percentage of senior leaders who say their **organization is "very" or "somewhat" unprepared** to meet this challenge.



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ONE | CLIMATE CHANGE | By Samuel Greengard

Climate Change Changes Business

Net-zero goals are proliferating for both countries and companies. **Businesses are responding** by rethinking supply chains, markets and entire business models.

$630B

The direct cost annually of **climate-related disasters in the U.S.** alone, or about 3.5% of the U.S. GDP.
Source: 2021 Financial Stability Oversight Council report

Business conditions have never been more challenging. Digital technology is advancing at a furious rate; societal values and attitudes are changing; and a stubborn and ongoing pandemic has upended work environments, supply chains and even entire business models.

All of this pales in comparison to the havoc organizations face as climate change takes hold. Global temperatures were already 1.2 degrees Celsius higher in 2017 than preindustrial levels, and current projections see a rise to 1.5 degrees Celsius above preindustrial levels in the next two decades. Wildfires, floods, heat waves, intense storms and hurricanes, drought and rising sea levels must now factor into both the short- and the long-term plans of every organization.

For businesses as well as individuals, climate change poses a direct threat to property and physical infrastructure. It also ripples into areas such as labor, materials costs, cyber resilience and even the ability to generate revenues. What's more, there are growing concerns about disruptions caused by a broken energy grid and the threat of increased social and political instability.

According to a 2021 study that appeared in Yale's *Journal of Industrial Ecology*, the outcome could be severe, even disastrous. Industrial growth could end within the next decade or two, says **KPMG director Gaya Herrington**. Yet she also points out that the situation isn't completely hopeless. Businesses can play a crucial role in combating climate change. "A transformation of societal priorities…together with technological innovations specifically aimed at furthering these new priorities," she says, could help humanity get back on the right path.

Charles Bayless, the **former CEO** of **Tucson Electric Power** and **Illinois Power**, and now a consultant at Insigniam, describes the problem in this way:

"As recognized in 1824 by the great mathematician Joseph Fourier, the Earth's atmosphere traps heat, causing the Earth to warm. Add more heat-trapping gases and the Earth gets even warmer.

"Today, measurements show that we add the additional heat equivalent of more than three Word War II nuclear weapons per second to our atmosphere, ice and oceans, and are also acidifying our oceans. While this may seemingly scream out for action, the economics of externalities are difficult to overcome.

"Assume a city decides to be 100% renewable—all vehicles are electric, and even backyard grills are solar. Assume that the total cost of the conversion—car costs, home solar, everything—when added to the electric bill, is 7 cents per kilowatt hour (kWh). Assume now that the total benefit to society is 35 cents per kWh and thus represents a 7:1 payback. That's a great investment.

"But while the costs are concentrated on the city's citizens, the benefits of the conversion are shared by the world's entire population of roughly seven billion people, resulting in a benefit of one-billionth of a cent to each citizen of the city for their 7-cent investment.

"Market economics alone will not solve our problem. Many factors must come together to ensure our and our children's future, but the most crucial ingredient is leadership: leaders who can visualize a future and then create it, leaders who have the courage to stand up for science and stand up for our future."

Already, companies are responding like never before. The list of initiatives is as impressive as it is varied: They're embracing eco-friendly farming, turning to biofuels, reformulating products with biodegradable materials, introducing sustainable packaging, using electric vehicles, reengineering buildings, adapting data centers, improving recycling and e-waste methods, and even using artificial intelligence to optimize supply

PREVIOUS SPREAD, KOTO_FEIA/GETTY IMAGES; ABOVE, BLOOMBERG CREATIVE/GETTY IMAGES

chains and logistics. In addition, a growing array of applications helps companies measure and support zero-carbon initiatives.

Yet there's a need to advance beyond today's environmental, social and corporate governance (ESG) programs and embark on wholesale changes to business models. It may even require a fundamental rethinking of capitalism.

Turbulence Ahead

It's a mistake to view climate change as an abstract and futuristic problem, as its impact is already tangible. A *Harvard Business Review* study found that abnormal weather now disrupts the operations and financial performance of 70% of businesses worldwide.

The financial ramifications are severe. "Climate change is an emerging and increasing threat to America's financial system that requires action," stated **Secretary of the Treasury Janet L. Yellen** in a recent Financial Stability Oversight Council (FSOC) report. In the U.S. alone, the cost of weather variability exceeds $630 billion annually, about 3.5% of the GDP. That figure will undoubtedly increase in the years ahead.

For businesses, climate change promises to affect every corner of the enterprise. The most obvious problem is damage caused by violent and extreme weather. Low-lying areas are ever more prone to flooding. Larger and more intense wildfires threaten physical infrastructure—even in urban areas. Hurricanes, floods and violent storms put offices and data centers at risk. And drought conditions additionally threaten data centers, which demand large volumes of water.

"We are seeing the frequency of disruptions growing and their level of impact increasing," states **Andrea Bonime-Blanc**, **CEO** of New York City-based **GEC Risk Advisory** and a faculty member in the Global Security, Conflict and Cybercrime program in New York University's Center for Global Affairs. "There's a need to rethink the way organizations approach business and the way they actually manage the business." This includes building more resilient infrastructure and IT frameworks and >>>

70%

Percentage of operations and financial performance of businesses worldwide **disrupted by abnormal weather**. *Source: Harvard Business Review*

also adapting supply chains to minimize disruption risks.

Indirect effects of climate change will likely be substantial as well. For example, health care systems may buckle under the stress of climate-related problems in the coming decades. "When you look at who really suffers from the poor outcomes of our climate strategy, it's very often the same people who are disadvantaged through inequitable access to health care. They often carry the biggest burden of the cost of climate, one way or another," says **Sir Andrew Witty**, **CEO** of **UnitedHealth Group**.

Although it's tempting to think that moving more tasks online will solve the problem, the climate change equation isn't that simple. Digital activities currently represent only about 3.7% of global energy consumption. However, growing digital energy demand is forcing businesses to construct more data centers. Over the coming years, video, artificial intelligence, machine learning, deep learning, cryptocurrency mining and the Internet of Things (IoT) will further increase energy demands, says **Kelly Widdicks**, a **lecturer** at the **School of Computing and Communications** at **Lancaster University** in the U.K.

Cryptocurrency mining is especially alarming, because it's prompting high-emission coal-powered plants to reopen in order to meet the electricity demands it creates. Yet today's electronic devices also fuel climate change. Not only do they consume enormous amounts of energy during the manufacturing process, but their carbon footprint extends back to the mining and processing of lithium and other minerals used for batteries as well as the e-waste they generate.

Getting to Net Zero

An October 2021 report from the United Nations and Accenture found that businesses have been slow to react to climate change. The study of 1,200 CEOs across 113 countries and 21 industries concluded that a majority of organizations are lagging in establishing net-zero emission targets and preparing for climate-related risks.

The situation is forcing organizations to adapt, according to the U.N. study. Overall, 57% of respondents said they are taking steps toward addressing targets set by the Paris Agreement. For instance, 64% of CEOs reported that they are diversifying their material inputs in products and operations, and 63% have started to diversify geographically. In addition, 81% have begun to develop new sustainable products and services, and 74% of CEOs say they are now deploying new and circular business models that minimize carbon output.

That's the good news. The same U.N. report found that only 16% of organizations have reached an advanced level of net-zero business, and an equal number have reached an advanced level for measuring and reporting greenhouse gas emissions. Magnifying the problem is the fact that insurance companies are increasingly hesitant to insure against climate-related risks in areas prone to problems, even as Net Zero Tracker, which reports on national net-zero commitments, shows that governments have been slow to establish clear policy guidance and regulations.

Where does this leave the business world? **Richard Black**, **senior associate** at U.K.-based **Energy & Climate Intelligence Unit**, an independent think tank, says there's a fundamental question: Is the world on the path to progress, or are government and enterprise moving too slowly? Mr. Black says that the quality of existing targets is rising, but that "more than 20% of major G20 firms must urgently shift their targets from intent to integrity if they want to be taken seriously, and the rest of them—

64% of CEOs reported that they are diversifying their material inputs in products and operations; 63% have started to diversify geographically; 74% say they are deploying business models that minimize carbon output. —*Source: October 2021 United Nations and Accenture report*

nearly 1,000 firms—need to quickly wake up to the reality of this transition."

Thinking Beyond Carbon

Shifting climate change initiatives into high gear will require bold thinking—and immediate action. At the heart of the challenge, Ms. Bonime-Blanc says, is difficulty connecting specific corporate strategies directly to climate change. "There are tangible issues, but also many nontangible issues that veer into highly technical areas. It's critical to connect the dots across all the various areas—which present different issues, risks and opportunities."

What's needed, Ms. Bonime-Blanc says, is a focus on moving beyond ESG and into the realm of what she calls ESG plus technology, or ESGT. She describes this as a fusion of technology and policy. It includes governance and leadership, while plugging into a deeper understanding of a company's footprint, products or services, and extended supply chain. "Every business is a bit different. Yet every business can design a strategy for both addressing climate change and resiliency from it," she says.

This includes rethinking materials sourcing, defusing cyber risks, and adjusting international transportation and product delivery routes. It can involve redesigning manufacturing processes and investing in renewable energy >>>

RIGHT, COURTESY COCA-COLA

Coca-Cola Gets a Taste of Climate Change Success

The company's sustainable efforts—revolving around science-based targets and international cooperation—range from water resource management to implementing more sustainable packaging. For example, in October 2021, Coca-Cola unveiled its first-ever beverage bottle prototype made from 100% plant-based plastic, excluding the cap and label.

It is now working to scale the technology. In addition, it aims to collect and recycle or reuse 100% of the bottles it produces by 2030. The company's overall approach to ESG has already helped Coca-Cola achieve a 25% reduction in relative greenhouse gas emissions from 2010 to 2020.

It now aims to reduce its absolute carbon emissions 25% by 2030, and has an ambition to achieve net zero emissions by 2050. IQ

and new low-carbon technologies. Along the way, organizations must examine social, geopolitical, environmental and economic forces more closely.

"Organizations must have situational awareness like never before," Ms. Bonime-Blanc says.

Experts say that reducing a carbon footprint and establishing cyber resilience means rethinking what it means to be a business. It isn't enough to simply swap out locations for data centers and other facilities. There's a need to consider complex overlapping factors. This includes how a project benefits the business, of course, but also how it changes the carbon footprint. This can also serve as a starting point for exploring more efficient building designs, manufacturing methods and waste disposal.

A growing number of companies across a broad spectrum of industries are embracing innovation and promoting change on a grand scale. For example, General Motors has set a target of 2035 for ending production of gasoline- and diesel-powered vehicles. Most of the major airlines, including Delta Air Lines and United Airlines, have committed to using sustainable alternative jet fuels. In fact, in December, United operated the first commercial flight using 100% sustainable aviation fuel. Meanwhile, Hyatt is constructing energy-efficient buildings that use materials such as low-carbon, sustainable concrete and smart glass.

80%

The **share of global GDP** now covered by a net-zero target. *Source: Energy & Climate Intelligence Unit*

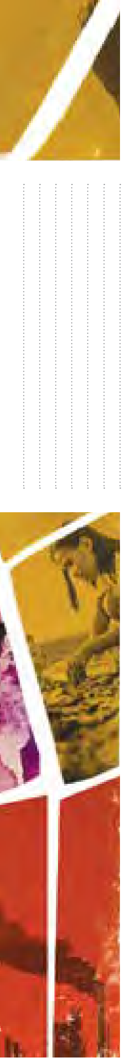
Others are focusing on areas such as manufacturing and packaging. Old Navy recently found a way to use bio-based materials in the production of its flip-flops. Coca-Cola is focusing on sustainable agriculture and sourcing all key ingredients sustainably. It has developed a bottle made of 100% plant material. The company aims to reduce its carbon footprint by 25% by 2025. HP is on a path to making all of its products and components entirely recyclable. To that end, it has constructed e-waste processing plants around the world.

Starbucks has redesigned lids for beverages to eliminate the use of straws, which could cut the number of discarded straws by millions. Meanwhile, Microsoft has embarked on an ambitious goal of becoming carbon negative by 2030. It hopes to achieve this objective by migrating to 100% renewable energy, making 100% of its campus vehicle fleet electric, achieving Zero Carbon certification and LEED Platinum rating for its buildings, and establishing an internal carbon tax to promote change.

Ultimately, it's essential to adopt a big-picture view and change the way we think about products and services, says **Stuart Jenkins, a Ph.D. researcher** in the **department of physics at Wadham College, Oxford University**. "While offsetting carbon is important, it isn't the entire solution. It's next to impossible to ensure that there's an equal swap." This means approaching the task in an appropriate and productive way, he argues. "Carbon dioxide extracted from a fossil fuel reservoir that's a few million years old can't be entirely offset by simply planting a tree—or even a forest," he says. The carbon equation is not equal, and forests can be damaged or destroyed by pests and fire.

Weathering the Change

In the coming years, business leaders are almost certain to feel increased heat regarding climate change from consumers and business partners. Already, shareholders and activists are pressuring companies to adopt stricter environmental controls and reduce emissions. When three climate advocates were elected to the ExxonMobil Corp. board of directors in 2021, it represented a radical shift in thinking and the beginning of a redistribution of corporate power. It signaled that shareholder



Climate change means fairly obvious changes for some sectors, such as energy generation, but it will result in changes across the board, having an impact on every company in every sector of the global economy. —**Stuart Jenkins**, Ph.D. researcher, Wadham College, Oxford University

value wouldn't be measured solely in dollars, euros, yen and pounds: It would be measured in carbon as well.

The rejiggering of ExxonMobil's board is no fluke. In May 2021, shareholders at Chevron Corp. voted to reduce the company's emissions. Major investment firms have indicated that if the company fails to comply, they may refrain from buying the company's stock. At the same time, governments around the world are cracking down on carbon emissions. In the Netherlands, a court ruled in May 2021 that Royal Dutch Shell would have to reduce its carbon emissions 45% below 2019 levels by the end of the current decade. In July, Shell confirmed it would appeal.

For business leaders, tying all the pieces together is critical. The task requires more than a commitment; it demands metrics and internal accountability, says **Sunya Norman, vice president of ESG strategy** at **Salesforce**. The software giant has focused on metrics and expanding the way it views stakeholders, including employees, customers and even NGO activists. It needs to answer the question, says Ms. Norman, "How do we make sure that our key stakeholders…not only investors…get the data that they need on sustainability?"

Climate change will ultimately have an impact on every company in every sector of the global economy, Mr. Jenkins says. Yet it may also represent new opportunities for businesses equipped to confront the issues and find innovative solutions. "Climate change means fairly obvious changes for some sectors, such as energy generation, but it will actually result in changes across the board," he says.

Climate change demands bold leadership, and those who step forward will likely avoid the worst for their companies—while helping society achieve the best possible outcome. "Businesses are becoming more and more aware of their responsibilities with climate change, and we are starting to see a transition in focus towards long-term value built by protecting the ecosystem within which our global economy sits," Mr. Jenkins concludes. "Alongside this, public pressure will provide a clear incentive for business leaders and governments to act." **IQ34**

TOWER OF POWER
The power station in Dunhuang, Gansu, China. It's the biggest molten salt tower thermal power station in the world.

ABOVE, XIU HUO/GETTY IMAGES

TWO | EMERGING ECONOMIES | By Geoff Williams

Finding Opportunities in Emerging Economies

Emerging economies present plenty of opportunity—for those willing to **embrace new cultures, challenges and rules** of engagement.

25

The **number of countries classified** as emerging economies.
Source: S&P 500

If Botswana or El Salvador suddenly became a dramatically more competitive market, with its companies competing for your clients—and sometimes winning—would your company be ready?

For now, that situation may be hypothetical. But increasingly, countries that have not been considered emerging economies are showing up on the radar as markets that the C-suite needs to reckon with. Over the last decade, Morocco, for example, improved its position in the World Bank's *Ease of Doing Business* ranking, shooting up over 50 places, recently ranking 53rd out of 190 countries. While the pandemic slowed things down, the World Bank predicts that in 2022, the Moroccan economy could rebound to where it was before the pandemic.

Malaysia is also on the cusp of economic advancement, according to research conducted by the World Bank. The World Bank projects that Malaysia, which has been averaging growth of 5.4% each year for a decade, will transition from a middle-income to a high-income economy by 2024. Malaysia, too, was hammered by the pandemic, but its central bank is projecting 2022 growth to come in between 5.5% and 6.5%.

Nigeria is proving similarly dynamic. As the International Trade Administration, part of the U.S. Department of Commerce, says on its website, the country has a growing middle class, estimated to be about 50 million people. It notes that "Nigeria can be a lucrative market for companies that can learn to navigate a complex and evolving business environment." Poland, Mexico and Indonesia are other emerging markets that are filling with both opportunities and formidable competitors.

53RD

Over the last decade, **Morocco improved its position** in the World Bank's *Ease of Doing Business* ranking, shooting up over 50 places, recently ranking 53 out of 190. *Source: World Bank*

Despite rosy forecasts for several countries' economic growth, it's important to note that emerging economies as a whole have been hit especially hard by COVID-19. The total cost in lost global output because of the pandemic could be $4.5 trillion by 2025, according to a July 2021 report from the International Monetary Fund. Of that total, emerging and developing economies had a loss of approximately $3.5 trillion. Meanwhile, foreign investors have been shedding local currency bonds from their portfolios.

A Delicate Balance

China and India tend to get the most hype from the media and business universe as growing markets, but there's a wide world of emerging economies out there—and a whole host of new opportunities and pitfalls for business leaders to navigate. It's an exciting time, but it's also a frustrating one, in which a misstep could be financially devastating. It's all too possible to invest in a market only to have it suddenly closed off to your business. In the past few years, some countries have become more isolated—with protectionist rules sometimes designed to inhibit trade—and also walled off because of COVID-19.

All of which means that U.S. companies that intend to expand their horizons need to come up with new strategies to compete—even as supply chain issues remain a serious threat, along with a continuing pandemic.

"Multinational corporations head-quartered in mature economies enter the emerging markets with lots of cash and well-established infrastructure for business success. Many of these companies look at their existing set of products and ask, 'How can we get consumers in developing markets to buy these goods?' That's a mistake," says **Insigniam consultant Greg Trueblood**. "To differentiate themselves, >>>

PREVIOUS SPREAD, KOHEI HARA/GETTY IMAGES; THIS SPREAD, VALENTINA BASSI/EYE EM/GETTY IMAGES

"If you're going to compete and survive, you really have to hire experts who understand each market and not rely on information that you garner superficially."

—**Usha C.V. Haley**, professor of management, Wichita State University

S&P 500 Emerging Economies

S&P 500 **considers the economies of these 25 countries** to be emerging.

- Brazil
- **Chile**
- China
- **Colombia**
- Czech Republic
- **Egypt**
- Greece
- **Hungary**
- India
- **Indonesia**
- Kuwait
- **Malaysia**
- Mexico
- **Pakistan**
- Peru
- **Philippines**
- Poland
- **Qatar**
- Russia
- **Saudi Arabia**
- South Africa
- **Taiwan**
- Thailand
- **Turkey**
- UAE

large corporations should look for opportunities to leverage their assets and infrastructure to support country-specific product offerings that meet local preferences."

For most businesses in more mature economies, emerging economies present a double-edged sword. The better off a country's residents are, the more lucrative the potential market and the profit potential. But that also means you're more likely to encounter new businesses located in these emerging economies that can compete effectively with yours. In recent years, the situation has become even dicier, with some economies shifting away from globalization.

The result: The geography of trade looks much different than it did just a few years ago.

Navigating the New Geography of Trade

There is no official list of emerging economies, but many organizations compile their own, with S&P 500 classifying 25 economies as "emerging." Outside of the more advanced economies, "the rest of the world is considered to be either emerging or developing, with population being basically the one thing separating them," says **Stuart Robles**, a **partner** at **Briggs Capital**, a mergers and acquisitions firm located in Dedham, Massachusetts. Mr. Robles is also the co-author of *The New World of Entrepreneurship: Insiders' Guide to Buying and Selling Your Own Business in the Digital Age* and formerly the owner of a 950-person call center in Central America.

When Mr. Robles says that population is the one thing separating emerging from developing economies, he means that countries with massive populations are generally considered emerging economies, while those with smaller populations are considered developing. Mr. Robles says those smaller countries are "too small to make a dent in growth and in increasing median income for the country as a whole."

China, an international powerhouse, is still considered emerging. That's because its GDP per capita in 2020 was $10,500, in contrast to the U.S. GDP per capita in 2020, which was just over $63,500. Says Mr. Robles, "China is still far away from having the median income that can afford them developed country status."

Every Country, First

Part of the difficulty of devising a strategy for productively working in emerging economies is the current resurgence of nationalistic trade protectionism. Even when countries have negotiated agreements that should encourage trade, they're still finding ways to block it. These measures are taken in the name of protecting the financial interests of their constituents, but it generally hurts everyone when companies and customers aren't allowed to engage. Working with your congressional representatives to help break logjams has never been more important.

But there are other barriers to succeeding in this new trade geography, such as the sheer volume of data and information necessary to engage in these countries. "I don't look at emerging markets as one basket," says **Usha C.V. Haley**, a **professor of management** at **Wichita State University** and co-author of *Subsidies to Chinese Industry: State Capitalism, Business Strategy, and Trade Policy*. "India and China, for instance, can't be grouped together. Vietnam is completely different from anywhere else. It doesn't make any sense to think of these emerging economies as lumped into one…If you're going to compete and survive, you really have to hire experts who understand each market and not rely on information that you garner superficially."

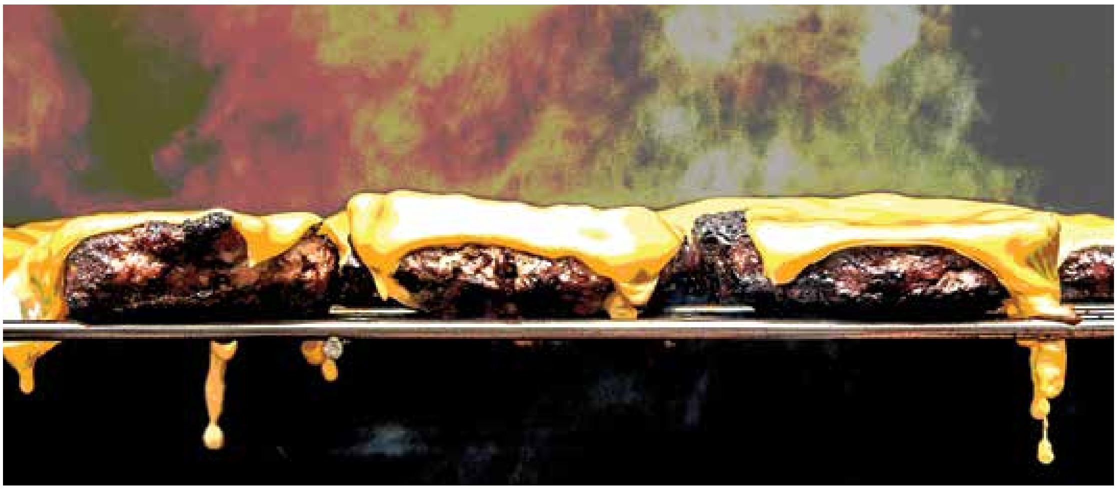
LEFT & RIGHT: ERIC SPROUL/GETTY IMAGES

China's GDP per capita in 2020 was $10,500, in contrast to the U.S. GDP per capita in 2020—just over $63,500. "China is still far away from having the median income that can afford them developed country status." —**Stuart Robles**, partner, Briggs Capital

The COVID-19 pandemic is another complicating factor. As Mr. Robles says, "Countries with the new COVID-brought protectionism restrictions are feeling a double whammy." The economies that have stumbled the most are those dealing with travel restrictions, says Mr. Robles. "Investors do not want to have anything to do with countries—developed and emerging alike—that they can't even visit."

A Zoom strategy for working with people you've never met before, in faraway lands, Mr. Robles adds, isn't cutting it: "Getting two parties to trust each other by looking each other in the eye through video, or worse, through voice, is much more challenging than a face-to-face meeting." As Ms. Haley says, "You need time to observe from the ground the lay of the land, and you should never invest more money in an emerging market than you're comfortable losing."

But Mr. Robles notes that countries that opened up to international air travel quickly after the first few months of last year's global shutdowns are seeing strong investor appetite. The fast-changing nature of the opportunities, and of investor sentiment, coupled with unpredictable geopolitics, underscores the importance of working with partners who have deep roots in your chosen markets. >>>



Emerging Markets Are on Wayback Burgers' Menu

Wayback Burgers, founded in Newark, Delaware, in 1991 as Jake's Hamburgers, has burger restaurants scattered across more than 30 states, Canada and a couple of European countries. But the fast-casual restaurant chain also has locations in Brunei, Morocco, Saudi Arabia and Pakistan.

Wayback Burgers has taken the path less traveled in becoming a global brand. It made a calculated decision to build its brand in emerging markets, rather than trying to compete in potentially more crowded markets such as England and Australia. Wayback Burgers has succeeded by identifying master franchisees who know the countries and region intimately—because they live in those countries—and by working with local partners and vendors. In 2022, Wayback Burgers will open its first location in Tokyo. IQ

Learning How the Other Players Play the Game

Ms. Haley warns that many executives fall into the trap of thinking that emerging economies are going to be so grateful to work with others that they'll be happy to play by the rules proposed by partners in economies that are more developed. "There has been a viewpoint that we're going to make a country like China more like us, when China is really not interested in becoming the United States," says Ms. Haley. If anything, she says, the predominant view in China may be that the U.S. should be more like them. "They would rather that we acknowledge their rules and learn how they play," Ms. Haley says.

A preference for a different rulebook doesn't necessarily mean that enthusiasm for protectionist trade policy is warranted. At least, that's how Mr. Robles sees it. "The U.S., China and the U.K. can afford to be protectionist, to exit the EU bloc, to fight with each other, and investors will still flock to them or do business in those markets," Mr. Robles says.

Amid the uncertainty caused by protectionist trade policies, other countries might gain new manufacturing plants that prefer to set up outside of China for better market access to the U.S., says Mr. Robles, but in general, emerging markets don't benefit when the U.S., U.K. or China becomes more protectionist. "Every country [trading with the U.K.] had to negotiate a new bilateral trade agreement with the U.K. after Brexit," he says. "For every single country to have to send delegates to negotiate, sacrifice certain products in the negotiations, and then have to change and reconfigure trade schemes, among other factors—all these costs are borne by the rest of the world."

$3.5T

Lost output by emerging economies from COVID-19.
Source: 2021 International Monetary Fund report

And for companies that suddenly find their products regulated out of a market due to restrictions on trade or tariffs that make them cost-prohibitive to consumers? A financial reckoning could be in order. "Developed countries like the U.S., New Zealand and Italy can probably withstand the isolation, but countries like Argentina are suffering the consequences of double protectionism," Mr. Robles says, referring to both the protectionist policies and the consequences of the COVID-19 pandemic related to travel and trade. "Brazil and Turkey are suffering the politically motivated trade protectionist policies of populist governments while seeing a surge in tourism and venture dollars," Mr. Robles says. Meanwhile, the traditional mergers and acquisitions market hasn't seen similar growth.

This isn't to say you shouldn't be doing business in emerging markets. With their growing middle classes and economies, they can represent lucrative business opportunities. But before wading in, organizations need to educate themselves and tread carefully. Make sure you're up to speed about tariffs and trade agreements in any countries where you may want to do business, and get in touch with your congressional representatives to make sure any concerns are communicated. Find experts who understand your industry and the country where you wish to do business, and let them point you to the most suitable partners on the ground. Then be prepared to get on a plane yourself, and to adapt to new ways of working once you arrive. Despite the difficulties caused by protectionism, cultural differences and even time zones, doing business in an emerging market could be a big win for your company. And you certainly don't want to lose. **IQ34**

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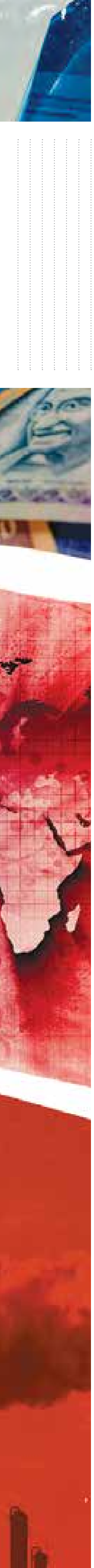

"I don't look at emerging markets as one basket. India and China, for instance, can't be grouped together. Vietnam is completely different from anywhere else." —**Usha C.V. Haley**, Wichita State University

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THREE | TECHNOLOGY DISRUPTION | By Scott Steinberg

Balancing Oversight and Governance With the Need for High-Tech Speed

Technology is **speeding along as fast as the innovation economy can push it**. How can regulators and legislators keep up?


55.7 Billion
The **number of devices** that will be connected and communicating with each other by 2025.
Source: International Data Corporation

Moore's Law—the observation that the number of transistors in an integrated circuit doubles every two years—used to seem aggressive. But now **Microsoft CEO Satya Nadella** says he's seen two years' worth of digital transformation in two months; e-commerce has also grown suddenly. As **Peter Diamandis**, creator of the **XPRIZE Foundation**, points out, going forward, high-tech shifts will no longer be linear or predictable, even though that's how people's minds are hardwired to think. As he puts it: "Humans are not prepared to understand the rate of change" that coming years will present. These changes will bring unique challenges for both domestic and international legal and regulatory frameworks. They raise the question: What will technology companies be accountable for going forward—and to whom?

"Photos, videos, search results, shopping options—so much of the content and information that we consume these days is now distributed and disseminated to us via Big Tech companies," says **Chris Zimmerman**, **senior analyst** for market researcher **FutureProof Strategies**. Given the often highly private nature of tech services and the high level of control that tech firms may exercise over their services, this raises big questions for lawmakers, industry watchdogs and the general public. "Whose job is it to police this stuff, what material is appropriate to share, and—given the sheer volume of information passing through these digital crossroads—where does responsibility for managing day-to-day oversight and regulatory compliance of these exchanges lie?" he asks.

Amazon, Facebook, Google and Twitter collectively influence the actions and decisions of billions of users worldwide. All have lately been called upon to testify before lawmakers on a bevy of issues from anticompetitive practices to the sharing and distribution of questionable content. A great deal of discussion has centered on protections currently offered by Section 230 of the United States' Communications Decency Act, a 1996 law that effectively holds that websites, and the online services they provide, cannot be held legally responsible for their users' posts, however offensive or damaging those posts may be. But present-day communications laws may not be up to the task of protecting users from online harm: Just look at recent whistleblower complaints alleging Facebook's knowledge that its products and content-sharing algorithms are harming users, and record-breaking fines levied against Amazon for violating European Union (EU) guidelines for processing personal data.

Thanks to their exponential growth—Facebook alone gains 500,000 new user accounts every day—it becomes more challenging to govern online services with each passing month. Given the international legal system's slow pace of change, often archaic guidelines and general unfamiliarity with new and emerging technology, it's difficult for regulators to keep up with the blistering clip at which technology evolves. A September report from the U.K. Parliament's Public Accounts Committee said it's not clear that today's government and regulatory leaders are equipped to adapt to rapid technological change. What's more, even when regions such as the European Union do move to tighten privacy regulations, these measures can still take years to enforce, as evidenced by the 225 million-euro fine recently levied against WhatsApp owner Facebook—three years after the relevant regulation, the EU's General Data Protection Regulation, went into effect.

Even if government agencies and

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lawmakers could come to a consensus on high-tech policy, by the time they've fully researched a topic and rendered a decision the high-tech world has typically moved on, often rendering that decision moot or outdated. Even when a global power such as the EU does manage to become more digitally sovereign and self-aware, it still struggles to make choices between conflicting objectives, notably privacy versus competition and consumer protection versus innovation, according to the Media Law Resource Center.

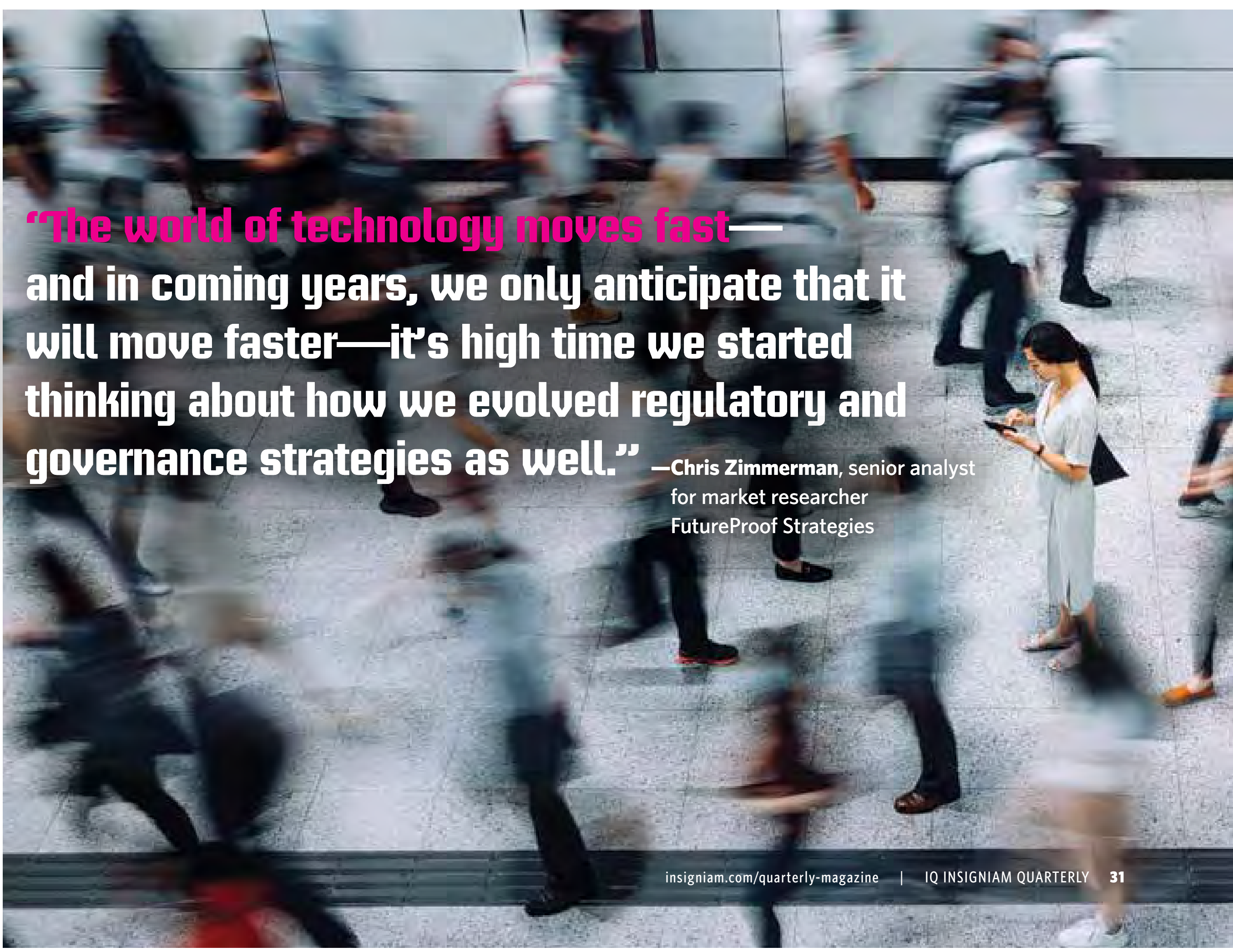
Meanwhile, artificial intelligence (AI) and machine learning will be preparing to supercharge industry evolution and growth. AI and machine learning are experiencing a massive influx of investment dollars, with global funding expected to reach $232 billion by 2025. They're already capable of making life-impacting decisions and generating content on an unprecedented scale.

"Artificial intelligence, and especially deep learning technology, are poised to transform virtually every sector of the economy," says **Martin Ford, author** of *Rule of the Robots: How AI Will Transform Everything*. "AI will eventually become so ubiquitous that it will evolve into a utility not unlike electricity—a resource that can be easily and inexpensively deployed to solve almost any problem. Going forward, the importance of AI to organizations across the economy will only grow."

The catch is that all of these AI routines are typically privately built and governed, and exactly as fallible as their creators. Likewise, they may also have inadvertent biases or flaws in their construction. With unprecedented levels of attention now being paid to topics such as the digital transformation of the workplace and whether robots will replace human workers, public interest in these topics is spiking. In 2019, 37% of U.S. workers age 18 to 24 said they feared >>>

$232B

The amount of **funding expected to be invested in artificial intelligence** by 2025.
Source: KPMG



being replaced by high-tech alternatives, according to a CNBC/SurveyMonkey *Workplace Happiness* survey.

Yet a September 2021 report from the nonprofit and nonpartisan Information Technology and Innovation Foundation found that recent concerns that AI and automation will eliminate millions of American jobs don't necessarily reflect market reality. According to the report, rates of job loss were actually lower in the third quarter of 2020 than they were back in 1995.

At the same time, awareness of privacy and data-sharing concerns is skyrocketing. According to a new study by PR firm FleishmanHillard, data privacy and data security are now the top two issues that global consumers care most about—and the leading challenges that they expect companies to act on going forward. Granted, some firms—such as Facebook, which announced in November that it would be shutting down its facial recognition programs and deleting over 1 billion users' faceprints—are already taking proactive steps to mitigate some of these concerns. But these decisions remain largely voluntary and company-specific.

Users are being asked to share more sensitive data online, and at more digital touchpoints, with each passing day. Furthermore, with market researchers International Data Corporation predicting that 55.7 billion devices will be connected and talking to one another by 2025, including fitness trackers and smart thermostats, virtually any high-tech gadget comes with potential risks attached. And the data collected by the vast majority of products that people use every day simply isn't regulated.

500K

The number of new **Facebook accounts** created every day.
Source: Brandwatch

"Add it all up, and you're only looking at more potential complexity and confusion surrounding the governance and oversight of technology and technology firms in coming years," says **Tim Rosato, president** of trend forecasters **Silver Lion Group**. "Major high-tech services and solutions are only becoming more far-reaching and sophisticated with each passing day, even as rising cybersecurity and privacy concerns continue to present more potential areas of compromise."

The world is already embarking on a fourth Industrial Revolution: an age of smart technology where entire supply chains, manufacturing systems and business operations are increasingly powered by the Internet of Things (IoT), capable of both communicating and analyzing information. By 2025, IDC predicts that over 55.7 billion devices will be connected and talking to one another and generating almost 80 zettabytes of data. Artificially intelligent factories, self-driving cars and assembly lines staffed by autonomous robots will become the norm—and will increasingly be making decisions for themselves. Even as regulators continue to struggle with the management and governance of current technology solutions, all of these advances may require further comprehensive regulation and oversight.

"While it's clear that we know what we know—and also evident that there is much we don't know—if we don't acknowledge how little awareness we have about what 'we don't know, that we don't know' in this new information age, we risk making decisions that could cause more harm than good," says **Insigniam consultant Barry Maloney**. "We must adopt a mentality that is seeking to question, and even be skeptical about everything of which we are certain, if we stand a chance to have new discoveries to match the challenges of tomorrow's technologies."

With so much uncertainty now swirling in the high-tech realm, how can organizations,

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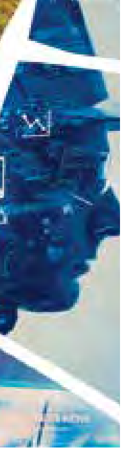


> **"Artificial intelligence, and especially deep learning technology, is poised to transform virtually every sector of the economy."**
>
> **—Martin Ford**, author, *Rule of the Robots: How AI Will Transform Everything*

governments and industry leaders stay one step ahead of the curve? **While there's no one universal answer, some strategic next steps might include:**

1 Instituting **universal, federally, regionally or industry-mandated policy standards and guidelines** regulating the collection, sharing and use of data, as well as the governance and maintenance of users' privacy.

2 Adopting consumer **privacy and protection rules on a regional or geographic basis** that promote cooperation and consistency between member states or nations and provide a model for others to learn from and build upon.

3 Establishing **nationally and internationally mandated government or industry task forces and committees** chartered with researching, reviewing and understanding the impact of new and emerging technologies—and empowering these teams to make swift recommendations to lawmakers surrounding them.

4 Convening **advisory boards and panels of experts hailing from differing industry areas and disciplines** to routinely provide a range of perspectives and opinions on tech-related subjects, and to discuss how best to address them.

5 Codifying **best practices and standards for technology, data, and privacy management and regulation**, as well as offering guidance, analysis, tools and resources to international lawmakers struggling to come to grips with new high-tech challenges.

6 Asking governing bodies and companies to engage in **regular future-focused scenario planning exercises**, grounded in real-world examples, to proactively plan for impending challenges.

7 Crafting **strategic partnerships and alliances between public and private sector leaders** to multiply the resources, impact and speed with which tech-related challenges can be addressed.

8 **Overhauling tax systems and regulations** to more swiftly and accurately reflect how businesses operate in the field, how users interact online, and the potential influence of technology on various types of commercial exchanges.

9 Working to **eliminate loopholes, workarounds, and vagueness in existing policies and laws** that provide gray areas in which less scrupulous high-tech actors currently find room to maneuver.

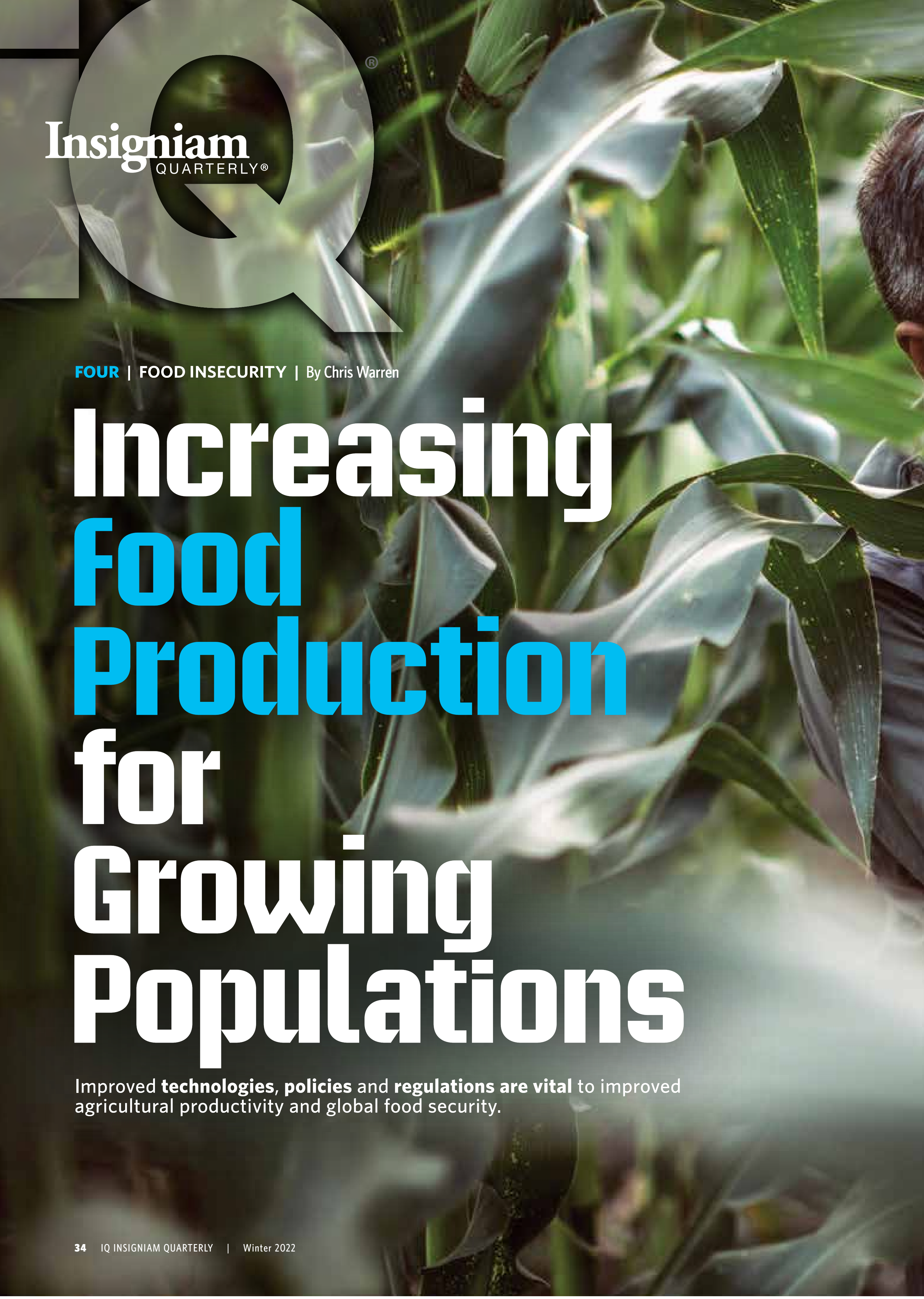
10 **Looking toward the future rather than the past**, and relying less on historical precedent and outdated use-cases and scenarios when making decisions aimed at addressing new examples of technology's influence and impact.

11 **Allowing younger generations**, who often use new technologies more frequently and know more about them than older generations, **more of a voice at the decision-making table**.

12 **Promoting greater high-tech education and reeducation, and conducting greater screening amongst lawmakers** to ensure that the decision-makers tasked with rendering key high-tech opinions have an up-to-date and comprehensive base of knowledge to draw upon.

Both government and executive leaders are well aware that concerns related to technology are poised to increase going forward as the pace at which technology evolves and continues to accelerate. At the same time, current rules and regulations often inhibit, rather than support, their efforts to rein in the undue influence of myriad virtual vagaries and high-tech hiccups. To get better about addressing these challenges, it's vital to have more informed discussions and make key decisions surrounding these topics more frequently, in the years ahead. It's also vital to consistently rethink our fundamental approach to tackling technology-related issues in coming months, given the unprecedented scope and influence that they now command.

"The world of technology moves fast—and in coming years, we only anticipate that it will move faster," notes Mr. Zimmerman. "It's high time we started thinking about how we evolved regulatory and governance strategies as well." **IQ34**



Insigniam QUARTERLY®

FOUR | **FOOD INSECURITY** | By Chris Warren

Increasing Food Production for Growing Populations

Improved **technologies**, **policies** and **regulations are vital** to improved agricultural productivity and global food security.

Food Security

Defined by the World Food Summit as the conditions under which "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

Global population growth and increasing agricultural productivity are inextricably linked. According to the World Bank, Earth's population in 1960 was 3 billion. Today, the population clock run by the United States Census says that the world's population stands at 7.8 billion.

That dramatic upward climb has been accompanied—and made possible—by an increasingly productive agricultural industry. International agricultural productivity has risen at an annual rate of between 2% and 3% since the 1960s, according to the U.S. Department of Agriculture's Economic Research Service. Some decades, such as the 1960s, saw especially robust growth (nearly 2.9% each year), while the 2010s were comparatively sluggish, at just over 2% annually.

The World Food Summit defines food security as being achieved when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." Despite gains in productivity, the world is becoming increasingly food insecure.

The State of Food Security and Nutrition in the World 2021 report, compiled by the United Nations' World Food Program, the Food and Agriculture Organization, the International Fund for Agricultural Development, the United Nations Children's Fund and the World Health Organization, estimates that as many as 811 million people went hungry in 2020, due to extreme weather exacerbated by climate change and economic slowdowns worsened by COVID-19. The report also found that in 2020 about 12% of the world's population was severely food insecure, which is defined as running out of food or going an entire day without eating. Without dramatic changes, the report found, 660 million people may face hunger in 2030—triple the current population of Brazil.

Lagging Productivity and Climate Extremes Increase Food Insecurity

What would it take to sustainably feed the world by 2050? Each year the Virginia Tech College of Agriculture and Sciences produces a global agricultural productivity report. In it, researchers calculate what is known as total factor productivity (TFP), which is a measure of the amount of crops, livestock and aquaculture products that can be produced using a constant or decreasing amount of land, labor, machinery, fertilizer and livestock. According to the report, global TFP growth was 1.36% between 2010 and 2019, but it needs to increase by 1.73% annually to keep up with the growing demand for food.

Not only is the world not meeting that mark, says the Virginia Tech research, but many nations that need to see their food production increase are actually experiencing a decline. Even where growth is taking place, it often comes through unsustainable practices, such as deforestation.

The difficulty, however, is more complex than just upping agricultural productivity—a steep obstacle itself. "If it was just about productivity, it would be challenging," says **Paul Winters, Keough-Hesburgh Professor of Global Affairs** in the **Keough School of Global Affairs** at the **University of Notre Dame**, who formerly served as director of the research and impact assessment division at the International Fund for Agricultural Development in Rome. "To me, the problems are other issues. One is climate change, and trying to increase productivity while simultaneously adapting to and mitigating the impact of agriculture on climate change."

The impact is significant. According to the Intergovernmental Panel on Climate Change (IPCC), agriculture, forestry and land use are responsible for about 23% of total global greenhouse gas emissions, nearly the same amount as electricity and heat production combined. Already, the effects of climate

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change are sapping the capacity of farmers to produce crops and other goods. A recent study by Stanford University found that global farming productivity is 21% lower than it would be without the impact of climate change. That's equivalent to losing seven full years of global agricultural increases since the 1960s.

Unprecedented Cooperation Needed to Achieve Food Security

Reducing and eventually eliminating global hunger and food insecurity is obviously a daunting challenge. The sheer scale of the task, says Mr. Winters, necessitates a concerted and collective effort that involves large and small farmers, development institutions, university researchers, big agriculture companies, and technology firms. That's because the work and objectives of these different institutions and stakeholders are interdependent but have traditionally been siloed.

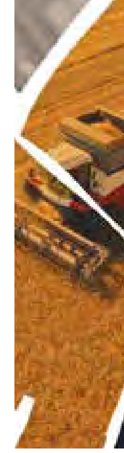
For example, governments, nonprofits, and large agriculture and food companies all have roles to play in delivering technologies and farming practices that are climate-friendly and more productive to the millions of small farmers around the world. According to a report by the U.N. Food and Agriculture Organization (FAO), there are 608 million family farms around the world, the vast majority of which manage less than 2 hectares of land. The FAO estimates that these small farms produce about 35% of the world's food.

Many of these farmers grow only enough food to feed their families. Financial and technical support to help small farmers sustainably grow and sell more food can improve food security both by increasing the supply of food and by generating more income for the farmers themselves. One example of a collaborative effort to assist small farmers is in Ghana, where nonprofit Winrock International is working with the Hershey Company and Ecom Agroindustrial Corp. to improve the land management practices of cocoa farmers. >>>

811 million

The number of **people who went hungry** in 2020.
Source: United Nations' World Food Program and the World Health Organization

Indoor agriculture in greenhouses, warehouses and specially built shipping containers cultivates produce using a combination of electric lighting; heating, ventilation and air conditioning equipment; building controls; automation; and, in some cases, AI.



"The work is to demonstrate how improving land tenure, tree tenure and financing cocoa rehabilitation can improve yield, increase carbon stocks through shade trees and reduce deforestation," says **Aaron Sundsmo, Winrock's senior director of agriculture, resilience, and water**. "As part of this work, Winrock is developing a payment-for-environmental-services scheme, where farmers receive payment from Hershey to maintain a certain level of shade on their farms and potentially increase tree cover off-farm." These improved practices could become more widespread if farmers were to also receive payments for carbon sequestration for planting and maintaining shade trees.

Other organizations are also working to promote collaboration and partnerships that address food security with climate-friendly agriculture practices. The World Bank's Global Agriculture and Food Security Program (GAFSP) recently announced $150 million in grants to support low-income countries and farmers and strengthen more resilient and sustainable food systems.

Advocating for Better Policy and Regulation

Another challenge to food security arises when a country is overly reliant on food imports. Removing barriers to international agricultural trade is one way to help address this problem. Increasing national self-sufficiency is also critical—an effort that Winrock is supporting in Nepal.

"In recent years, several events—flooding, earthquakes, border closures—have illuminated the need to boost Nepal's domestic rice production to reduce reliance on imported grain and unsustainable and inefficient practices," Mr. Sundsmo says. In response, Winrock is working with the U.S. and Nepali governments as well as small farmers and private milling companies to initiate improved processing technologies and train farmers to produce healthy rice seedlings. In 2020, the collaboration improved rice yields for the participants to a level nearly 30% higher than the national average.

Improved technology, policy, and regulations can also help farmers around the globe increase their production in more environmentally sustainable ways. For example, the Emeryville, California–based company Sound Agriculture is working to provide the nitrogen and phosphorus required by crops in ways that drastically reduce the use, cost and negative environmental impacts of traditional synthetic fertilizers. Over half of the nitrogen applied to corn, soy and other crops using synthetic fertilizers isn't actually used by the plants. The nitrogen that isn't absorbed flows into waterways and the atmosphere, causing significant environmental damage.

Sound Agriculture's Source increases the nitrogen and phosphorous fixation of crops, while benefiting soil health, productivity and sustainability. "If you're constantly dumping these synthetic fertilizers in your soil, the microbial activity goes down, your organic matter goes down, and the soil just loses its ability to have its robustness and resiliency," says **Adam Litle**, the **CEO** of **Sound Agriculture**.

Mr. Litle argues that corporate executives should lobby for improved policy not only around the world, but also in the U.S. For example, crop insurance provided by the federal government protects growers when weather and other events harm their yields. Mr. Litle argues that crop insurance and other incentives need updating to encourage farmers to change their practices to become more productive and climate-friendly over the long term. "Growers should get paid for sustainable farming or for reducing nitrogen, because that's an economic risk," he says.

35%

The share of the **world's food produced** by family farms. *Source: U.N. Food and Agriculture Organization*

ABOVE, TDUB303/ISTOCK

Crop insurance and other incentives need to be updated to encourage farmers to change their practices to become more productive and climate-friendly over the long term. "Growers should get paid for sustainable farming." —**Adam Litle**, CEO, Sound Agriculture

| Drive Innovation and Make It Widely Available

Continuous research and innovation are essential to addressing food insecurity, especially as climate extremes worsen. Mr. Winters points to groundbreaking research led by **University of Chicago professor Chuan He**, showing how RNA manipulation can increase crop yields by 50% and enable crops to better endure drought.

Expanded use of technology is another avenue for improving agricultural production with fewer resources and emissions. Also known as smart or precision farming, this involves the deployment of sensors, drones, weather stations, robots and other technologies that collect data about conditions on a farm. That information can then be analyzed by artificial intelligence (AI) to guide decisions about when to plant, irrigate, fertilize or harvest crops.

Some agricultural innovation is even more radical. Indoor agriculture in greenhouses, warehouses and specially built shipping containers cultivates produce using a combination of electric lighting; heating, ventilation and air-conditioning equipment; building controls; automation; and, in some cases, AI. These farms require little or no soil and benefit from their highly controlled environment because they don't need fertilizer and pesticides, aren't impacted by droughts and storms, and require up to 95% less water than traditional outdoor farms. *Time* magazine recognized indoor farming company AeroFarms as one of its 100 Best Inventions of 2019, noting that its cultivation of greens is 390 times more productive per square foot than traditional agriculture.

"Innovation can bring increased productivity, more robust results and enhanced value to the global food chain," says **Insigniam consultant Bob Peterson**. "However, innovators need to challenge their own inherent biases, beliefs and assumptions about the problem they are out to solve in order to produce a breakthrough in this incredibly complex challenge."

Of course, there are big questions around who can access the sensors and other technologies that bolster outdoor farming, or make a shift to highly controlled indoor agriculture. "Having sensors in the field that allow for smart farming and place-based fertilizer, pesticide and water applications is a good thing. But who pays for it? And who collects and owns the data, and how does it get into the system when a lot of areas don't have great internet or technology in place?" says **John Fisk**, who consults with nonprofit agriculture NGOs as **CEO** of **Bluestem Food Systems**.

Large corporations can make investments that expand the benefits of technology and innovation to farmers and consumers. But it requires patience and a willingness to rethink the entire supply chain. For example, the vast majority of U.S.-sourced fruits and vegetables are grown in California and Arizona, states that are increasingly challenged by severe drought. Shifting at least some production to wetter climates reduces financial risk and can benefit food production and security.

"When I think about solutions, I think about diversification," Mr. Fisk says. "We need to diversify and move where resources are more predictable. Companies need to look at the long run about production and make investments in new areas that are good for them and the public. If we move salad greens to middle America and the East Coast where there is more water, what kind of investments are needed?"

Though clear-eyed about the challenges of ensuring food security, Mr. Fisk is encouraged by how many big companies see their own future growth tied to increasing production through sustainable practices. "Conventional agriculture is embracing climate change and embracing solutions to it," he says. "It's never about these companies and industries doing things for altruism. But they are starting to see their future through that prism." **IQ**34

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FIVE | ANTIBIOTIC RESISTANCE | By Phil Britt

The Next Pandemic and Increases in Drug Resistance

The power of antibiotics—**a key contributor to global health and well-being**—is waning. Only a concerted global effort can maintain their effectiveness.

154 million

The number of **prescriptions for antibiotics** written in the U.S. each year.
Source: The Pew Charitable Trusts

The antibiotics we use to routinely fight everything from ear infections to strep throat are becoming less effective, thanks to overuse of antibiotics and a slowing antibiotic development pipeline. By 2050, drug-resistant diseases could cause 10 million deaths each year.

According to the World Health Organization, "antibiotic resistance is rising to dangerously high levels in all parts of the world. New resistance mechanisms are emerging and spreading globally, threatening our ability to treat common infectious diseases. A growing list of infections—such as pneumonia, tuberculosis, blood poisoning, gonorrhea and foodborne diseases—are becoming harder, and sometimes impossible, to treat as antibiotics become less effective." Research from The Pew Charitable Trusts found that 95% of oncologists worry about the impact of drug-resistant bacteria on their patients. That's partly because one in 10 cancer deaths are due to severe sepsis—not the cancer itself.

The most recent antibiotic resistance report from the U.S. Centers for Disease Control and Prevention (CDC) found that six common antibiotic-resistant pathogens caused an estimated 30,000 deaths in the United States and resulted in $4.6 billion in health care costs. Further research from The Pew Charitable Trusts, University of Utah and Infectious Diseases Society of America found that over one-third of those deaths and costs came from the seniors 65 years and older, even though they made up only 15% of the U.S. population that year.

"There are two main factors that have brought us to where we are right now when it comes to antibiotic resistance," says **David Hyun**, M.D., **director** for the **antibiotic resistance project** at **The Pew Charitable Trusts**. "The first is that antibiotics have been overused." The second, he says, is that the pipeline of new antibiotics in development has not been able to keep up with new varieties of infections.

Overuse of Antibiotics

According to research from The Pew Charitable Trusts and the CDC, antibiotics should be prescribed only when a bacterial infection is known or suspected. Approximately 13% of all outpatient office visits in the U.S., or about 154 million visits annually, result in an antibiotic prescription; about 30% of these, or some 47 million prescriptions, are unnecessary.

"That's a problem because any time that antibiotics are used, that contributes to resistance because it gives bacteria opportunities to find mechanisms to reduce the actions of the antibiotics," Dr. Hyun says.

Another issue is the overuse of antibiotics in food animal production, according to Dr. Hyun. One-third of antibiotics approved for use in animals lack any restrictions on prescription duration, which leaves the door open for unnecessarily long courses of treatment. Because all antibiotic use contributes to resistance, injudicious use in animals can accelerate the growth of drug-resistant pathogens.

"In 2018, the FDA released an ambitious agenda outlining the agency's near-term goals to promote judicious use," Dr. Hyun says. "Some initiatives within this five-year plan—such as removing medically important antibiotics from over-the-counter settings—have been successful. But many of the plan's objectives have not been addressed in a timely manner. For example, the agency still allows animals to be given many antibiotics for prolonged or indefinite periods of time, despite the fact that such use clearly violates the FDA's own definition of judicious use. FDA needs to establish

PREVIOUS SPREAD, PEOPLE IMAGES/GETTY IMAGES; THIS SPREAD, APOMARES/GETTY IMAGES

duration limits for all animal antibiotics as soon as possible—a step that would significantly reduce unnecessary use and something that Pew research indicates can still be achieved before 2023."

A Global Issue

In 2009, the Global Antibiotic Resistance Partnership (GARP) was launched to create a platform for developing actionable policy proposals on antibiotic resistance in low-income and middle-income countries. During the first three years, Phase 1 of GARP started relatively slowly, spending its first three years establishing working groups in India, Kenya, South Africa and Vietnam to examine the use of antibiotics in both humans and animals.

GARP Phase 2, which started in 2012, added working groups in another handful of countries—Mozambique, Nepal, Tanzania and Uganda. Bangladesh prepared a national strategy and action plan for antimicrobial resistance in GARP Phase 3, implementing integrated activities, including a national antibiotic surveillance system and laboratory network, and collaborating with other countries globally.

Individual Patients Create a Large Impact

While Dr. Hyun says there are many reasons for the inappropriate use of antibiotics, "patients have a tremendous role and influence in the prescribing decisions. There have been studies that show that patient pressure or patient demand plays a significant factor in the overuse of antibiotics."

Many patients will request—and receive—antibiotics even though they are suffering from a virus, rather than from a bacterial infection. A study by The Pew Charitable Trusts found that in the first six months of the COVID-19 pandemic in the U.S., more than half of hospitalized COVID-19 patients received antibiotics.

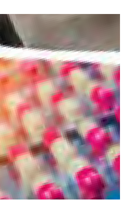
There is also research showing that when doctors perceive a patient wants an antibiotic, it will be prescribed, says Dr. Hyun. "That is sufficient to potentially give them an antibiotic prescription, even in situations where it is not needed."

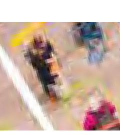
Dr. Hyun says that other factors contributing to the overprescribing of antibiotics include:

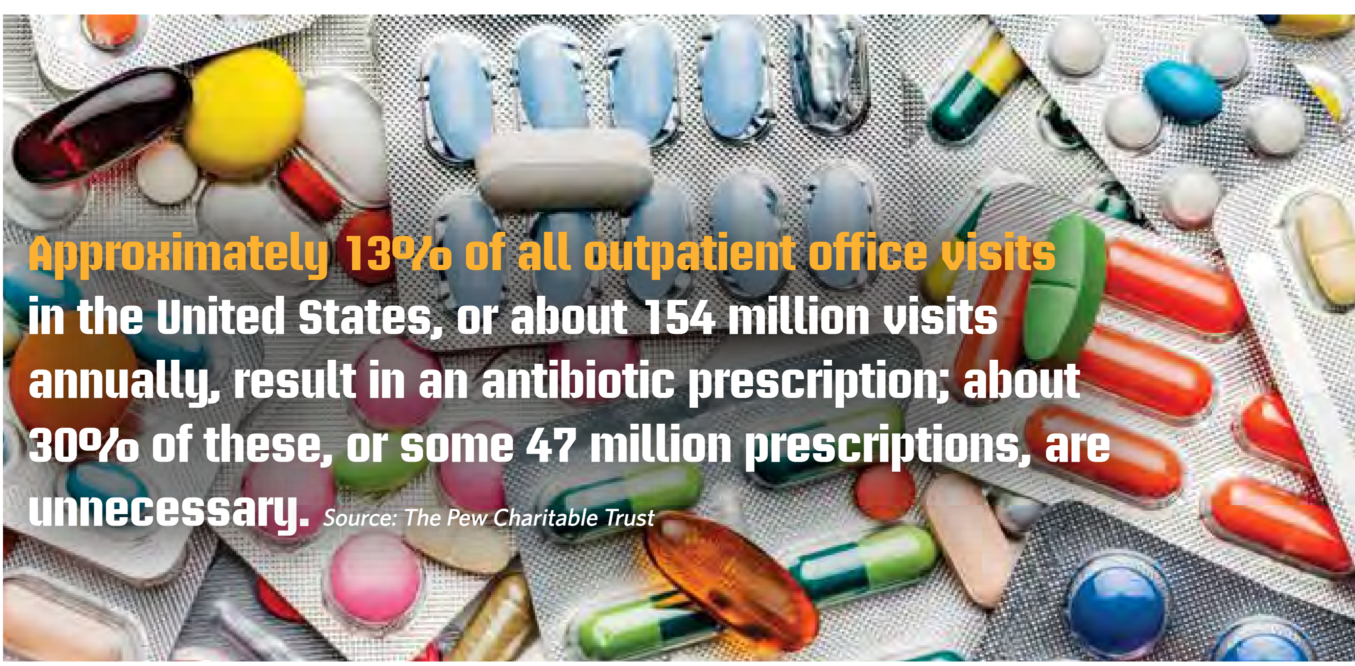
- **Time constraints in outpatient settings:** In interviews, doctors have said they may quickly prescribe antibiotics because shorter office visits enable them to see more patients, and they'd rather avoid lengthy explanations as to why the drugs aren't needed. In at least one study of general practitioners, physicians who see more patients prescribed antibiotics at a higher rate than those who were less busy.
- **Decision fatigue:** Repeatedly diagnosing and treating large numbers of patients may affect a doctor's ability to make consistent prescribing decisions. >>>

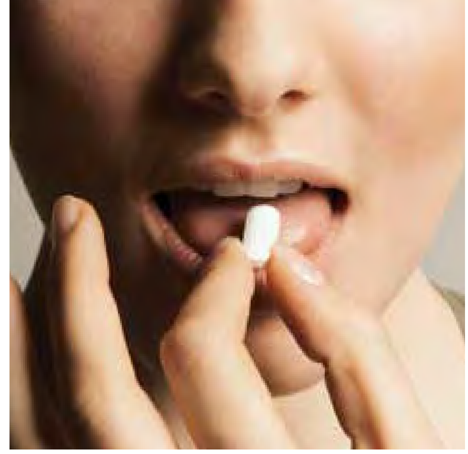
47 million

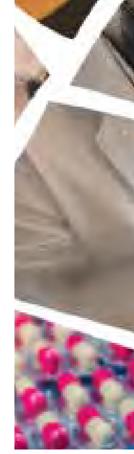
The number of **unnecessary antibiotic prescriptions written** each year in the United States.
Source: The Pew Charitable Trusts











- **Uncertain diagnoses:** Patients with viral and bacterial infections often have the same symptoms—congestion, cough, sore throat—making it difficult for physicians to differentiate between them without a diagnostic test. Some physicians prescribe antibiotics because they see the risk of not prescribing them as greater than the risk from unnecessary antibiotic use.
- **Assuming other doctors are the problem:** Studies show that physicians attribute inappropriate prescribing to other clinicians or blame other areas of medicine.

A Struggling Antibiotic Pipeline

The second factor contributing to antibiotic resistance is that the antibiotic development pipeline has not been able to keep up with the novel bacteria that are emerging, says Dr. Hyun.

A Biotechnology Innovation Organization report found that only 1 out of 5 infectious disease drugs that reach the initial phase of testing in humans will receive approval from the Food and Drug Administration (FDA). As of December 2020, 43 new antibiotics with the potential to treat serious bacterial infections were in clinical development, according to The Pew Charitable Trusts. Of those, only 13 had made it to phase 3 of development.

13

The number of **new antibiotics** in phase 3 of development.
Source: The Pew Charitable Trusts

Dr. Hyun points out that developing antibiotics to treat highly resistant bacterial infections is especially challenging, because only a small number of patients contract these infections and meet the requirements to participate in traditional clinical trials.

Another challenge is that pharmaceutical companies are exiting the field of antibiotic development. From 2014 to 2020, the number of large pharmaceutical companies with new antibiotics in clinical development fell from eight to two, according to Pew. Additionally, many small companies that had entered the field have gone bankrupt. “Drug development is an inherently risky and uncertain proposition,” says **Insigniam partner Jennifer Zimmer**. “Companies are looking for ways to de-risk, and exiting a field where the future is especially murky or uncertain is always an option.”

Drug makers and private investors are abandoning antibiotic research and development because of steep losses: $100 million just between 2014 and 2016. By contrast, drug companies earned $8 billion in profits on cancer drugs. In 2019, private investment contributed $9.7 billion to oncology research, but only $132 million to antibiotics research.

Economic incentives are needed to prompt more investment in antibiotic development, Dr. Hyun says. Pew is urging the federal government to create financial incentives to help drug companies recoup the costs of bringing new critical antibiotics to market.

The Case for Collaboration

Patients, physicians, the pharmaceutical industry and business and privately funded foundations all need to play a part meeting the antibiotic resistance challenge, according to Dr. Hyun.

Patients and physicians should have open discussions about treatment options before any antibiotic prescriptions are written, Dr. Hyun says. “What frequently happens is that past experience influences the patient’s expectation about what they will need for the illness. If they were inappropriately given an antibiotic in the past, that could influence what the patient expects on the next visit. Patients have to keep an open mind and deal with these illnesses one episode at a time.”

The Pew Charitable Trusts’ Antibiotic Resistance Project addresses the growing

ABOVE, PAUL BRADBURY/GETTY IMAGES

> "Research shows that when doctors perceive **a patient wants an antibiotic, it will be prescribed.** There is an opportunity for patients to play a role in improving how we use antibiotics, particularly in outpatient settings." —**David Hyun**, director, antibiotic resistance project, The Pew Charitable Trusts

public health challenge of multidrug-resistant infections by supporting policies that stimulate and encourage the development of antibiotics to treat life-threatening illnesses. Pew also is working to preserve the effectiveness of antibiotics by phasing out the overuse and misuse of the drugs in food animals.

There are some positive developments in the battle against antibiotic resistance:

- **The $1 billion AMR Action Fund**, a collaboration of more than 20 leading biopharmaceutical companies, including Pfizer and Merck, aims to invest in small companies developing innovative antibacterial treatments. In partnership with philanthropic organizations, development banks and multilateral organizations, the AMR Action Fund seeks to strengthen and accelerate antibiotic development. It plans to work with governments to ensure there is a sustainable pipeline of new antibiotics to fight superbugs.
- **The bipartisan PASTEUR Act** (S. 2076/H.R. 3932), if passed, would form a committee of representatives from federal agencies, doctors, patients and outside experts to develop and implement necessary guidance regarding infections of concern, and the favored characteristics of potential treatments. The model would offer antibiotic developers an upfront payment in exchange for access to their antibiotics, encouraging innovation and helping to ensure our health care system is prepared to treat resistant infections.
- **The bipartisan DISARM Act** (H.R. 4127) seeks to increase hospital reimbursement for antibiotics. It would enable Medicare to offer add-on payments to hospitals that use a qualifying antibiotic to treat a serious or life-threatening infection. It also would remove the reimbursement challenges created by the diagnosis-related group reimbursement classification system, which sets a fixed, bundled Medicare payment for in-patient services.

While none of these initiatives will solve the problem of antibiotic resistance on their own, they do point the way toward further collaboration between different institutions and actors. With increased personal responsibility on the part of patients, increased awareness by physicians, and a concerted effort by governments and nongovernmental organizations, it's possible to encourage further development in the private sector, and to extend the life of antibiotics known to be effective and important contributors to global health. IQ34

Improving and Reducing Antibiotic Use

The Agency for Healthcare Research and Quality (AHRQ) has seen promise in a new program the organization funded to ensure antibiotics are used properly. The program showed significant declines in antibiotic prescribing in ambulatory clinics even in the face of COVID-19 related disruptions, according to the Infectious Diseases Society of America, with total antibiotic prescribing dropping by nine prescriptions per 100 visits, and acute respiratory infection-related antibiotic prescriptions falling by 15 per 100 visits by the end of the program.

Additionally, Johns Hopkins Medicine and the University of Chicago researchers worked with national experts to create and implement the AHRQ Safety Program for Improving Antibiotic Use, which provides education and technical support to ambulatory care clinicians and staff to improve antibiotic use by incorporating stewardship into practice culture, communication and decision-making. Just under 400 ambulatory practices completed the program. IQ

SIX | DATA PRIVACY AND SECURITY | By Scott Steinberg

Maintaining Security and Privacy Despite Disruption

Taking a **forward-thinking and proactive approach to cybersecurity** can help you better defend tomorrow's organization against rising digital dangers.

Cybercrime is today's fastest-growing form of criminal activity. McAfee reports that an average of 419 new high-tech threats are released every minute, and RiskIQ calls it at 648. With digital dangers costing organizations a whopping $1.8 million a minute in system downtime, brand damage and other response-related costs, 81% of organizations in a Cybereason study reported being extremely concerned about the possibility of such attacks.

One of the best-known examples is the May 2021 incident that hobbled America's Colonial Pipeline. Another is the December 9, 2021 discovery of a vulnerability in Apache Log4j, a Java library used by thousands of companies and software programs (knowingly or otherwise), which brought significant challenges for organizations in every field. Security researchers have since warned that hackers are making 100 attempts to exploit this security loophole every minute. >>>

$6.1T

The **estimated cost to global enterprises in 2021**, for ransomware attacks, now averaging one every 11 seconds. *Source: Cybercrime Ventures Annual Security Report*

While the average amount of time that malicious actors tend to go undetected in systems has recently shrunk, according to cyber-security firm FireEye's *M-Trends* 2021 annual threat report, companies still typically take 24 days to notice security breaches.

"The world of technology will be the next battleground on which many of the world's most meaningful conflicts will be fought," says **David Thomas**, **executive director** of **online programming** at the **University of Denver**. "Already, we're seeing many of the globe's largest and most powerful nations gearing up to engage in a new age of cyber warfare. Look closely, and you can already see the signs of a high-tech arms race taking shape."

A number of factors make it harder than ever to secure digital assets, and some of them, ironically, are brought on by organizations' own efforts to improve their information technology. "The more we go through digital transformation, which increases our reliance on data, and the more we focus on data management, the more imperative it becomes to protect informational assets," notes **Reza Morakabati**, **CIO** of data protection leader **Commvault**. "Organizations' threat surface is only becoming larger due to transformation and automation."

419 to 648

The number of **new high-tech attacks** launched every minute. *Sources: McAfee and RiskIQ*

"The biggest challenge that organizations now face is that data is currently being exchanged across so many different online touchpoints," notes **Aaron Cockerill**, **Chief Strategy Officer for Lookout**. "Because everyone's moving to the cloud, and remote or virtual work solutions, there's effectively no fixed security perimeter [to watch over] anymore, and enterprises' visibility into what's happening in terms of data use and access is shrinking."

Open-source software presents another challenge, with Log4j alone used by enterprises in every field, across a multitude of programs from email services and web applications to cloud hosting platforms. Via open-source software solutions, virtual miscreants may already have access to more high-tech back doors than many realize. In fact, 90% of IT leaders are already using open-source software, knowingly or otherwise, according to Red Hat's 2021 *State of Enterprise Open Source Report*. These present potential vulnerabilities, as open-source programs are prone to errors, glitches and workarounds just like any other piece of software.

This means that, as a business, you should actively work to protect your back-end operations by engaging in automated software testing, code composition analysis (which checks underlying programs for loopholes and vulnerabilities), and workforce security education and skills training refreshes on a regular basis. And it's critical to have a step-by-step cyber threat response plan in place for any challenges that emerge.

How to Fight Back

The odds are good that your business will, at some point, be virtually compromised—and as a leader, you cannot afford to let your organization face that possibility unprepared.

Some challenges may be internal: Human error is a leading source of security breaches. As important as it is to employ strong digital defenses, as Mr. Thomas notes, it's also important to provide your workforce with routine cybersecurity training and skills refreshes every six months.

"Developing a privacy-by-design culture and deploying digital countermeasures should not have us forget that the threat can also come from within," says **Insigniam partner Guillaume Pajeot**. "Who are the employees who have access to sensitive data and systems? Beware of subcontractors, trainees and temp personnel who could be working for various interests. And what

PREVIOUS SPREAD, DEM10/GETTY IMAGES; ABOVE, QI YANG/GETTY IMAGES

about stakeholders who could release data to serve their cause? No policy nor system can respond to this kind of threat. It is all about relationship, listening and building cultures that spur trustworthiness and partnership across the system. There's no algorithm for these yet."

Mr. Thomas also advises investing in data management and risk mitigation services, which can sniff out the places where sensitive data resides in your business and help you quickly categorize it, secure it and cordon it off. It's not uncommon for information that's stored online or shared with networks or applications to accumulate in unexpected places through your business, or to go overlooked by your workforce for extended periods, presenting potential vulnerabilities.

a leading provider of enterprise-level secure access solutions. "In an age of distributed computing, where you cannot fully control access to devices and network connections, users' identity has become the new security perimeter."

Adopting a "privacy by design" mentality can also help you stay safer by fundamentally incorporating privacy into your product development and design processes, as Mr. Durand suggests. Privacy by design is a strategic concept that champions the interweaving of key privacy measures throughout the creation and operation of IT systems, networked devices, and organizational policies and procedures. In effect, it's an approach to systems engineering that encourages

"The world of technology will be the next battleground on which many of the world's most meaningful conflicts will be fought."—**David Thomas**, executive director, online programming, The University of Denver

An Updated Security Framework

Regardless of how advanced your IT solutions are, or how comprehensive your training, an organization can respond to threats more rapidly by adopting zero-trust security principles. Under the zero-trust operating framework, all high-tech network access and user communications are regularly authenticated and verified, and also consistently monitored for suspicious activity.

With zero trust, teams should be better able to identify and monitor possible unwanted points of high-tech entry, better control the flow of traffic coming in and out of networks, and—should threats arise—more effectively find ways to limit a cyberattack's potential blast radius. "We no longer live in a world where apps, data and users reside in a single location," says **Andre Durand**, **founder** and **CEO** of **Ping Identity**,

you to integrate and apply end-to-end privacy-focused solutions from the earliest days of a design concept. Instituting it can also help prepare your enterprise for the demands of a technology-driven future.

For leaders, the to-do list is long but straightforward: The more you ingrain a mindset of healthy suspicion in your workforce; the more you use a multistep authentication process to verify uncommon or sensitive transactions; the more you impose need-to-know-basis account limits on access to information and networks as a fail-safe in the event of a breach; the more you keep tabs on data coming into or out of your apps and networks; and the more you leverage advanced high-tech tools to constantly scan for and predict cyberattacks before they strike, the more effective at defending against digital threats your organization will be. **IQ**34

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SEVEN | REBUILDING EDUCATION | By Kimberly Weisul

Rebuilding Education in the Midst Of COVID-19

A massive **educational disruption provides an opportunity** to reconsider the links between school and work.

In 2020, 1.5 billion students in 188 countries were locked out of their schools, according to the Organization for Economic Co-operation and Development, delivering an unprecedented shock to educational systems worldwide. Whereas a tuberculosis pandemic in the 1900s saw New York schoolchildren being taught outside, some on roofs and even a ferryboat, the coronavirus has seen schools distributing hot spots, laptops, SIM cards and lunches to children who needed them.

For all their inventiveness, courage and work, it's been difficult for schools to claim success. The U.N. estimated that globally, COVID-19 would cause 101 million children to fall below minimum reading thresholds. **Birgitta Rabe, professor of economics** at the **Institute for Social and Economic Research** at the **University of Essex**, says evidence from around the world is starting to show that "mental health problems are quite probably more important than learning loss." In addition, older students lost connections to the workforce that are crucial to opportunities upon leaving school.

That's pushing researchers to look anew at the value of internships and other work programs, and the importance of partnering with employers to bring young people into the labor force.

But before schools, researchers and industry can work together on behalf of students, >>>

3.5 Million

Best estimate of **kids in the U.S., many of them high school students**, who left school during the pandemic, according to Bob Schwartz at Harvard University's School of Education.


it's important to understand the effects of COVID-19-related school closures, which is more difficult than it might seem. Schools across countries, states and even districts have had vastly different experiences. Many completely lost touch with a large number of students, even in places where closures were comparatively brief. In France, teachers said they lost contact with 6% of primary school students and 10% of secondary school students, according to an OECD report on the period of March through June 2020. The same report says that through June 2020, schools in the Czech Republic had lost contact with more than 20% of upper secondary school students in vocational education.

Bob Schwartz, a **professor emeritus** at **Harvard University's Graduate School of Education** and **founding board member** at the **STEM Opportunity Fund**, says accurate data is lacking in the U.S., but best estimates are that about 3.5 million kids, many of them high school students, left school during the pandemic. One key to getting them back, he says, will be to integrate work opportunities with formal education. That could help students better envision what their working lives might look like, and better understand the relevance of their high school education. Otherwise, he asks, "Why in the world would they want to go back to classrooms that were boring, where they couldn't see the relevance between what they were being asked to study and a life they could envision for themselves?"

In an online event co-hosted by the OECD and the American Educational Research Association, **Fabienne Rosenwald, director for Evaluation, Forecasting and Performance Monitoring** at the **French Ministry of Education**, said that during the school closure in France, the groups that had the most difficulties were at opposite ends of the educational spectrum: Those in primary school and those in vocational training.

1.5 Billion

The number of **children prevented from attending school** in 2020.
Source: Organization of Economic Co-operation and Development

Restructuring Education

At the same event, **Rukmini Banerji, CEO** of the **Pratham Education Foundation**, said the pandemic presents an opportunity to rethink the structure of education, and that grade-level curricula, in particular, haven't been working well in India. "It's time to put aside our grade-level curriculum and really focus on how to build these [reading and math] skills," she said. "If you do focus on teaching children at the level at which they are, you can make big progress in a short amount of time."

"Post-pandemic education provides a wonderful opportunity to bring breakthrough and innovation to the field. What is the problem we are trying to solve?" asks **Jon Kleinman**, a **partner** at **Insigniam**. "Get in the world of the end users—students, parents and educators—and prototype possible solutions that add value."

With older students, says Mr. Schwartz, the goal should be not just academic achievement but getting kids more attached to the workforce. While he cites the millions of students who've lost touch with the school system under an extended regime of school closures, he points out that the best vocational schools have long waiting lists. "The district superintendents are complaining that vo-tech is taking their best kids," he says.

Mr. Schwartz takes the Swiss educational system as inspiration. From about the age of 15, many students there are in programs that blend work, coaching and classroom learning. "As a way of getting kids through

PREVIOUS SPREAD, DAVID SACKS/GETTY IMAGES; THIS SPREAD, JOSE LUIS PELAEZ INC/GETTY IMAGES

> **"Post-pandemic education provides a wonderful opportunity to bring breakthrough and innovation to the field. Get in the world of the end users—students, parents and educators—and prototype possible solutions that add value."** —**Jon Kleinman**, partner, Insigniam

adolescence and helping them see the light at the end of the tunnel, it's very powerful," he says. About 70% of Swiss students choose apprenticeships, and about 40% of Swiss companies participate.

Such a program is a tough sell in the U.S., because it requires schools to restructure their programs, and teenagers have to be willing to trade extracurricular activities such as sports and band for work. But there is a payoff: Students get debt-free college credit, industry certifications and work experience, and they still graduate on time. Business partners, of course, get a leg up on talent acquisition.

CareerWise Colorado, a Denver nonprofit, has successfully adapted the Swiss system to a U.S. framework, graduating its second cohort of apprentices in 2021. CareerWise Colorado has also supported the launch of affiliates in other U.S. cities: Ascend, in Indianapolis; Horizons Education Program in Elkhart, Indiana; CityWorks in Washington, D.C.; and Here to Here in New York. In Denver, apprentices might work at Plante Moran or HomeAdvisor; in New York, business partners include Amazon and JPMorgan Chase & Co.

Mr. Schwartz is currently working on a project in Boston to help high school kids get exposure to both the world of work and higher education before they graduate, so that they're better prepared to make fitting choices after high school. Kids need to be better engaged if they're going to come back to school, he says, and for many, work may be a better way to do that than classroom learning. The sweet spot, he says, are middle-skill jobs, many of which are found in manufacturing and health care. These are jobs that require education beyond high school, and often a strong background in STEM fields, but not a full four-year degree. "The employers are desperate, and you've got something like 10 million jobs going begging, and people are unemployed and not willing to take those jobs," he says. He says that technology companies, in particular, are looking for a more diverse talent pipeline. "They're running out of people with four-year degrees and feeling a lot of pressure to have a more diverse workforce."

That could be good news for high school students who don't feel a strong sense of attachment to their classwork. Districts should be looking for ways to get kids out of the school for other forms of learning, such as service projects or apprenticeships, says Mr. Schwartz: "This really is about preparing kids for careers." IQ34

IBM and the New-Collar Job

Like other large employers, IBM is always looking for the right candidates to work in some technology roles. While some applicants to these jobs have four-year degrees, many of the jobs themselves are more likely to demand a particular combination of skills than the completion of a traditional degree program. IBM started to refer to these roles as "new-collar jobs," and, in January 2021, the company removed four-year degree requirements from more than half of its job openings. With its P-TECH program, IBM has also been a leader in combining high school and community college coursework with internships and mentorships. P-TECH now works with about 600 business partners in 220 schools in 28 countries, reaching approximately 150,000 students. IQ

EIGHT | **HEALTH CARE INEQUITY** | By Phil Britt

Health Care Inequity Affects Everyone

Health care inequity between different **ethnic and income groups**, between **wealthier and poorer communities**, and between **urban and rural areas** produces wide variations in available care and health care outcomes.

Despite having one of the most advanced economies in the world, the United States has built, and continues to tolerate, a health care system that is rife with inequity. Access to care can vary across a dismayingly large array of factors, including race, insurance coverage, and whether one lives in an urban community or a more rural one.

According to the Kaiser Family Foundation, health care disparities amount to approximately $93 billion in excess medical care costs and $42 billion in lost productivity per year, as well as additional economic losses due to premature deaths.

"Health care inequity exists across every market in the country," says **Dr. Philip Brown, chief community impact officer** for **Novant Health**. "For example, we see huge racial disparities in maternal outcomes, in infant mortality. We also have inequities in things that are harder to see. We have inequities between rural health services and metropolitan health services."

"A transformation in health care inequity requires broad and wide-reaching points of access that make it particularly easy and affordable for people who are underserved and a massive campaign to educate the populations to participate in their own health care," says **Insigniam partner June Zeringue**. "We need to look at what the barriers are from the patient's point of view and solve to remove those barriers, to a user experience that pulls for engagement. There are >>>

25%

The percentage of total **hospitals in the U.S. that are located in rural communities**, according to the American Hospital Association.

very few people who, when given the opportunity to access health care in a user-friendly environment, won't take the right actions to access their benefits."

The U.S. is not alone—there are dramatic inequities in healthcare globally. Child mortality rates are 14 times higher in sub-Saharan Africa, for example, than they are in the rest of the world, according to the World Health Organization. Children from the poorest 20% of families face nearly twice the odds of dying before age 5 as their peers in the richest 20% of families. There are similarly dramatic differences in maternal mortality: a 1 in 16 lifetime risk for a woman in Chad, compared to less than 1 in 10,000 for a woman in Sweden.

In the U.S., a large amount of health care inequity is driven by differences in access to insurance, says **Georges Benjamin**, **executive director** of the **American Public Health Association**. But even among those who do have insurance, there are differences in the ability to access care. "There are people who have insurance that is relatively generous and does not place substantial financial barriers preventing their ability to seek care. And there are others with skimpier health insurance," says **Matthew Fiedler**, **fellow** with the **USC-Brookings Schaeffer Initiative for Health Policy**.

While improvements to the system of insurance present one avenue for improvement, countries with significantly different payment systems—and their own health disparities—provide inspiration for other approaches. In France, legislation passed in 2004 gives physicians financial incentives to practice in underserved areas. Israel requires all health care providers to meet "cultural responsiveness" guidelines, in order to better meet the needs of minority populations.

47%

The number of **rural hospitals in the U.S. with 25 beds or fewer**, according to the American Hospital Association.

A national translation call center also helps ensure that patients receive care and instruction in a form they can understand. The New Zealand government requires health plans to consult with Maori communities.

Two Steps Forward, One Step Back

In the U.S., the Affordable Care Act was designed to close the gap between those with and without insurance, but several states chose not to expand the Medicaid program to cover low-income people who weren't insured by their employers and couldn't afford to buy insurance on their own, say Mr. Benjamin and Mr. Fiedler.

The ACA was also intended to eliminate "junk" insurance plans—plans that didn't cover or only offered very limited coverage for numerous types of illnesses and procedures. But the number of junk plans offered to individuals has been growing, Mr. Benjamin says.

Even for those with insurance, recent consolidations have left some communities without the access to care that they once had.

Closures have hit rural areas particularly hard. According to the American Hospital Association, there are 5,141 community hospitals in the U.S. today, but only 1,805 in rural communities. Those numbers are down from 5,280 and 1,887, respectively, in 2015. Forty-seven percent of the rural hospitals had 25 beds or fewer. In urban areas, many of the closures have been in communities of color.

There is also a shortage of pharmacies in some communities, further contributing to inequities, Mr. Benjamin says. He notes additional contributing factors to health care inequity: lack of full-service grocery stores for access to healthy foods, and lack of public transportation to reach health care facilities and full-service grocery stores.

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> **"Health care inequity exists across every market in the country."** —**Dr. Philip Brown**, chief community impact officer, Novant Health

Differential Access Means Differential Outcomes

Health care disparities have real effects. Using rates in North Carolina as an example, Dr. Brown says that African American infants are 2.4 times more likely to die than white infants. Indigenous infants are 1.7 times more likely to die than white ones.

"Does that make any sense?" Dr. Brown asks, going on to list a number of other disparities. "Why is it that African Americans are 2.3 times more likely to die from kidney disease than whites? Why are American Indians 2.4 times more likely to die from that? None of those disparities make sense."

"As organizations start to grapple with these questions, they become uncomfortable," Dr. Brown says. "It's at the point of this discomfort that we find ourselves at a crossroads. We can choose to say this can't be right, or we can choose to do the difficult work of analyzing how we are contributing to these differences and create better outcomes for everybody."

Health inequities became glaringly obvious as COVID-19 vaccines were first rolled out. As of August 2021, nearly 4 billion doses of vaccines had been administered. But only 1.1% of people living in low-income countries had received even one dose. South American countries overall had administered 59 doses for every 100 people, while Africa overall had administered less than five. By January 2022, the U.S. had administered 154 doses per 100 people (some received more than one), and India had administered 106, according to Our World in Data.

Attempting To Close the Gap

There is no magic bullet to solve the health care equity gap—but there is a process, says Dr. Brown. "It's about shaping your culture to meet the needs of all of the people that you serve and using your data systems to ascertain when there's a difference in outcomes," he says. "Then you need to peel back multiple layers to understand why. When we correct for the patients who are not being served well, the improvements actually carry over to the entire patient population. That is the critical thing to understand.

"Twenty percent of the nation's gross domestic product is spent on health care. A lot of that can be eliminated through this type of work."

The current transition to value-based care should help close the equity gap, according to Dr. Brown. With value-based care, payment is based on the delivery of health at higher levels to all people. If a significant portion of the population has poor outcomes, it's in the provider's economic interest—in addition to their moral one—to deliver a higher level of health care. "When you point out the financial implications to an organization, then it gets attention immediately," says Dr. Brown.

Increasing federal subsidies to enable more people to afford good insurance would also help improve health care equity. Another potential solution, Mr. Benjamin says, is to offer tax and other financial incentives for health care providers to operate clinics and other facilities in underserved areas. But even with financial incentives in place, there must be a relatively high patient volume, so that the facility makes economic sense for the provider.

Another strategy is to allow nurse practitioners or medical assistants to administer an increased number of health care procedures, freeing up physicians for other types of care, Mr. Fiedler says. That requires cooperation from health care providers, regulators and insurers.

Private organizations can help by offering their employees insurance, and by advising them on the best use of their insurance options, Mr. Benjamin added. "When we are successful at this, we can see levels of health that we've never dreamed about in our country," Dr. Brown says. "That's enough motivation to do this work for any organization that's involved in health care." IQ34

NINE | DEMOGRAPHIC SHIFTS | By Kimberly Weisul

In Search of 600 Million Good Jobs

Large enterprises will play a unique role in **raising productivity and creating opportunity for a wave of young people** just entering the workforce.

While the United States is facing a labor shortage, globally there is a huge need for jobs—a need that is only going to become more pressing. In the next 10 years, according to the World Bank, the world will have to create 600 million jobs to absorb all the young people expected to be entering the labor market. Just to keep employment rates constant, says the bank, Bangladesh would need to create an additional 1.1 million jobs a year, Pakistan would need to create 1.8 million and India would need to create 8 million. At the same time, a large demographic bubble of older workers is set to retire. That opens up some opportunities, of course, but also puts pressure on health care systems and benefits such as social security.

Benjamin Jones, a **professor** at the **Kellogg School of Management, Northwestern University**, says the challenge is not just to create jobs—which he thinks can be achieved—but to ensure they pay adequately. He notes that the 600 million young people entering the labor force will do more than just search for jobs—they'll create demand. "There will be jobs," he says. "Economies scale with population, and when you scale the population, that's more demand. Those things are going to work out." The big question, he says: "At what price will people be employed?"

The trick, then, is not merely to create jobs, but to create good jobs. And there is one factor that looms above all else in facilitating that. "What we really care about," says **Harry Holzer**, a **professor of public policy** at **Georgetown University's McCourt School of Public Policy**, "is productivity." >>>

600M

The number of **jobs the world will need to create in the next 10 years** to absorb all the young people expected to be entering the labor market.
Source: World Bank

Productivity: One Goal, Many Paths

Fortunately, there are many ways to boost productivity. Some require investment—either capital investment or investment in workers via education and training programs. Others, such as infrastructure and improved governance, fall squarely in the realm of government. Some require a leader who is able to put aside ethnic or other divisions, stamp out corruption, and invest for the good of the whole nation. In other places, credit markets need to be reformed or made more accessible. Because of their ability to invest and to connect markets, global companies will play a crucial role in raising productivity.

Perhaps the most visible way to improve productivity is with improved technology. In sub-Saharan Africa, for example, the World Bank calls for a variety of strategies to improve the productivity of farming, saying the region has for too long relied on short-term fixes such as fertilizer subsidies. To move forward, the bank recommends "attention to improved technologies and management practices, and long-term investments in research and infrastructure."

But if not implemented well, advanced technology destroys some jobs even as it creates others. "Automation is a wild card," says Mr. Holzer. That doesn't mean it can be ignored. "Glaring inequities destabilize societies, and when we're talking about large numbers of young people, it's even worse," he says. "The business community has an incentive to work together with educational institutions to try to solve this problem."

8m

The number of **jobs India would need to create each year** to keep employment levels constant.
Source: World Bank

Avoiding So-So Technology

Unfortunately, employers don't always make the best decisions when it comes to new technologies, says Mr. Holzer. "If we believe automation is going forward, it is something to worry about and talk about," he says. "We have to make sure the benefits are as widely shared as the costs."

Daron Acemoglu, a **professor** at **Massachusetts Institute of Technology**, and **Pascual Restrepo**, an **assistant professor** at **Boston University**, have identified what they refer to as "so-so technologies," or those that appear to boost productivity but mostly shift work away from service workers onto customers, often eliminating jobs. Think of self-service checkouts and customer service phone trees.

By its nature, automation tends to displace some workers, according to Mr. Acemoglu and Mr. Restrepo's research. That research also finds that employers turn to so-so technologies to shift work onto customers, get some minor economic gains or perhaps to pursue larger strategic goals. In the U.S., so-so technologies are encouraged by the tax code, which subsidizes the use of equipment while requiring payroll and other taxes to be paid for each employee.

But it is possible for automation to boost productivity, delivering value and growth. And where workers are unionized, Mr. Holzer says, companies implement advanced technology differently, and workers get retraining. Training and education, he says, are the tools that allow employees to work with machines rather than compete with them.

Global Companies as Catalysts

Multinational corporations have a unique role to play in enhancing productivity in the countries in which they work. That's not just because these companies may have resources to invest in tools and training. They also serve as important connectors between markets and as facilitators of high-value work.

"Multinationals can connect workers to higher demand, and to higher-value customers," says Mr. Jones. If a craftsperson is selling their goods in a village, but no one has

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money to buy those things, the craftsperson may not be able to make a living. If they can sell those same goods in another city in another country, they haven't necessarily changed their productivity, but the worth of what they produce has increased.

Similarly, some people may have skills that they are only able to use in collaboration with others. For example, a skilled surgeon needs to work with an anesthesiologist. "There are some talents that are almost useless in isolation," says Mr. Jones. "But a multinational corporation can fill in those coordination problems," and perhaps, in this example, provide the surgeon with a hospital and other skilled colleagues, as well as the infrastructure to be successful.

"You can imagine that when a multinational corporation comes into a country, where there is always raw talent, they have an opportunity to take individuals and connect them to a global system," says Mr. Jones.

"There is a preconceived idea that young people, also known as digital natives, entering the workforce are tech-fluent, when a growing number of them suffer from "illectronism"—a contraction of *illetrism* and electronics," says **Insigniam partner Katerin Le Folcalvez**. "A study by the French statistics institutes shows that 17% of French people aged 12 or above do not know how to solve a problem online in spite of spending hours on social media. This creates new needs for companies to train all workers on how to work with technology, regardless of age."

Without the multinational, it's harder for the worker to realize the value of their training, says Mr. Jones. But he says that on average, workers' wage options in affiliates of multinational corporations are "far better" than their other options. What's less predictable is the quality of labor standards that may be put in place, especially in countries that lack the equivalent of the Occupational Safety and Health Administration or other means to ensure worker safety. "There are multinational corporations who are very bottom-line-oriented, who say their affiliates are at arm's length and they don't need to ask questions. Others want to do the right thing, but it can be a bit of a race to the bottom," says Mr. Jones. "The reality is that giving people some safety and some rights is not that expensive. It's actually not that hard to have reasonable factory conditions."

There's good reason to believe the private sector will make progress here. Global companies have tried to come up with self-regulating bodies, with some success. Notable among them is the Fair Labor Association, a group of private companies, universities and other organizations that work together to end abusive labor practices. A fast-growing industry of social auditing consultancies also works with companies to help them understand working conditions all along their supply chains. And while some labor standards have made their way into trade agreements, it's clear that responsibility lies with individual companies. "I mostly think markets are pretty good," says Mr. Holzer. "But markets aren't very good at dealing with equity issues." When it comes to the creation of jobs, and good jobs in particular, he says, "The immediate sources of all decisions will be private enterprise." **IQ**34

Productivity Through Creative Training: Spain's Mercadona

Spanish retailer Mercadona is one of the most efficient in Europe, averaging sales of 10,600 euros per square meter in 2018. That's well above second-ranked Lidl, at just over 7,000 euros per square meter, or France's Carrefour, with 4,500 euros per square meter. And Mercadona is no boutique: In 2020 it did 26.7 billion euros in annual sales, through 1,641 stores in Spain and Portugal.

At most retail chains, employees' working hours are reduced at times that foot traffic is expected to be light. Mercadona has taken a different path, using an unusual training program. Every Mercadona employee gets four weeks of training when they start. Of course they learn the basics, such as how to check out customers and manage a particular part of the store. But they also learn to order merchandise, replenish stock and check for product defects. When the store is packed with customers, employees answer questions and help with purchases. But when foot traffic is slow, they stock shelves, check inventory and clean. Employees are always productive, and because turnover is low, customers get better service. The result: higher productivity, and more predictable hours and more stable schedules for workers, all of which are good for both the company and its employees. **IQ**

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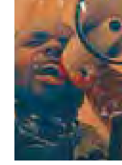

TEN | **SYSTEMIC INJUSTICE** | By Lisa Moon

The Social Responsibility of Business

As customers and other stakeholders become more **informed about the consequences of structural inequalities**, business can no longer stay on the sidelines.

The summer of 2021 is still with us—and leading changes that are long overdue. In the wake of the deaths of George Floyd, Breonna Taylor and countless other victims of systemic injustice in the United States, a transformation took hold across all aspects of society, including the workplace. Around the world, "business as usual" was upended while companies began to reexamine everything from their workplace culture to their investment policies.

Yet the pandemic has further disadvantaged the world's most vulnerable communities, already bearing the brunt of the increasing inequities existing in and among countries, as highlighted in the United Nations Sustainable Development Goals (SDGs). **U.N. High Commissioner of Human Rights Michelle Bachelet** has called for urgent action to address "the major disproportionate impact of COVID-19" on racial and ethnic minorities worldwide.

Our world has never been so interlinked, and forecasts show that that is set to continue. With increasing globalization, the rise in awareness of social and human rights across the public sphere, and the ever-widening lens of social media, companies must raise their standards for corporate social responsibility (CSR) and look both within and beyond their borders to examine their business practices.

ABOVE, MICHAEL HALL/GETTY IMAGES

Procter & Gamble's Supply Chain Success

Since 1976, Procter & Gamble's supplier diversity program has been **awarding contracts to businesses owned by women, racial and ethnic minorities, military veterans, people with disabilities, and members of the LGBTQ+ community**. The consumer goods giant has also partnered with organizations like U.N. Women and WeConnect to ensure women entrepreneurs in all regions are getting access to training, support and business opportunities. In September 2021, **P&G committed to increasing its global spend with diverse suppliers** from $3 billion the prior year to $5 billion annually by 2030. To further promote responsible sourcing, the company has **established a social audit program**, created by SEDEX (Supplier Ethical Data Exchange), to ensure ethical and responsible supply chains. **IQ**

Is Doing Good Good for Business?

It's been more than 50 years since the seminal—and now controversial—Milton Friedman essay *The Social Responsibility of Business Is to Increase Its Profits* was published. Much has changed. Though the debate rages on as to whether corporate responsibility offers tangible benefits to a company's bottom line, increasingly the data says that it does.

A series of research reports originally sponsored by Verizon and The Campbell Soup Company, *Project ROI* provides evidence and a business case for doing good. The studies have found that for large, publicly traded companies, corporate responsibility practices can increase market value by up to 4%-6%, increase revenue by up to 20% and reduce staff turnover rate by up to 50%.

Customers are certainly asking more of the companies they support. Nielsen reported in 2020 that 74% of U.S. millennials, often touted as the generation with the most buying power, were more likely to buy brands supporting social issues they care about.

Calling millennials "a unique generation," **Tracy D. Holloman**, a **consultant** for **Insigniam**, says that "they are not only buying brands that support social issues that they care about, but are also very selective in their careers regarding the companies that they apply to and work for. Many seek out roles with companies where there is a commitment to causing sustainable social impact and/or who are committed to philanthropy." >>>

74%

The percentage of **U.S. millennials more likely to buy** brands supporting social issues they care about.
Source: Nielsen in 2020

Beyond buying power, millennials are showing their influence on businesses with their career decisions. "It is a call to companies to do and be better which positions their organizations for strong growth as they attract, hire and retain great talent," argues Ms. Holloman. "This generation has a keen awareness for what is needed to make the world better, it's time for company leaders to listen and act accordingly."

The evidence isn't just showing up in reports and surveys. In practice, "purposeful companies" with better environmental, social and governance (ESG) profiles outperformed their peers in 2020, according to **BlackRock CEO Larry Fink**'s groundbreaking letter to CEOs.

Reimagining CSR

Joseph Stiglitz, **professor of economics** at **Columbia University** and 2001 Nobel Prize winner, has stated: "It's good that the business community has awaked. Now let's see whether they practice what they preach."

While the greatest responsibility may lie with governments, businesses have more than a bit part to play. The good news is that companies around the world are responding with actionable plans addressing their internal practices, supply chains and social responsibility agendas.

According to the Edelman Trust Barometer 2021, the path to recovery starts with an expanded business mandate, one that goes beyond the CSR of old and calls for CEOs to lead on issues and take public action, even if it potentially alienates certain populations of consumers or corporate partners.

Bill Penzey of **Penzey's Spices** has certainly taken a stand, mixing business with his social justice efforts. No stranger to controversy, Mr. Penzey lost 3% of his customer base after calling former President Trump a racist, but soon after online sales increased by 60% and gift-box sales more than doubled that. In response to a letter questioning his views on looting, Mr. Penzey "looted" his own Kenosha, Wisconsin store to donate the entire inventory to local food pantries and other charitable organizations.

While individual commitments from leadership are a step in the right direction, multi-stakeholder coalitions allow for an integrated, intersectional approach to far-reaching inequalities. Cisco has partnered with civil society and municipal leaders across North America and Oceania to provide indigenous communities access to digital education during the pandemic. Working with suppliers, governments and nongovernmental organizations, Unilever has committed to encouraging the global adoption of living wage practices and to launching reskilling and upskilling initiatives.

Another tried-and-true approach has been by means of financial resources, whether it be philanthropy or the rise of impact investing. Launched as the first investment fund focused solely on driving innovative solutions in the fashion industry, the Good Fashion Fund will invest up to $10 million on closed-loop manufacturing and the creation of fair jobs and growth in Bangladesh, and up to $25 million at the target fund size in the next two years. Bangladesh's ready-made garment sector is now a front-runner in transparency and the leading apparel-sourcing destination, thanks to outside investments and initiatives launched in the aftermath of the 2013 Rana Plaza collapse.

Finally, businesses have turned inward to workplace, hiring and fair labor policies. Levi's remains a model for excellence in this area since 1991, when it set the industry standard for workers' rights and a safe work environment. Today, the denim brand vows to expand its 2011 Worker Well-being initiative to 300,000 workers and produce more than 80% of its product in Worker Well-being factories by 2025.

Companies like Estée Lauder and Apple are following suit, beginning with the expansion of their networks at Historically Black Colleges and Universities (HBCUs). The cosmetics company has also committed to ensuring that the percentage of Black employees would mirror the Black population in the U.S. by 2025, while Apple, as part of its $100 million Racial Equity and Justice initiative, is launching a global innovation and learning hub at HBCUs and increasing venture capital funding for Black- and Brown-owned partners in their supply chain.

Many businesses have taken the first steps toward helping to reduce inequalities and addressing centuries-long patterns of unfairness. But whether it's through advocacy work or taking a closer look at supply chains, these efforts need to persist through this week's news cycle and focus on the society we'll have in 10 or 15 years, or even generations from now—after all, this is the future of our world we're talking about. **IQ34**


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